

# ANTREX Electronics

Electronic Components Sourcing Information

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## Product Reference Information

**Part Number:** LVRL100S  
**Manufacturer:** Littelfuse Inc.  
**Package:** Radial, Disc  
**Availability:** Please confirm with sales

### Product Page:

<https://antrexco.com/product/details/littelfuse-inc/lvrl100s.html>

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### Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

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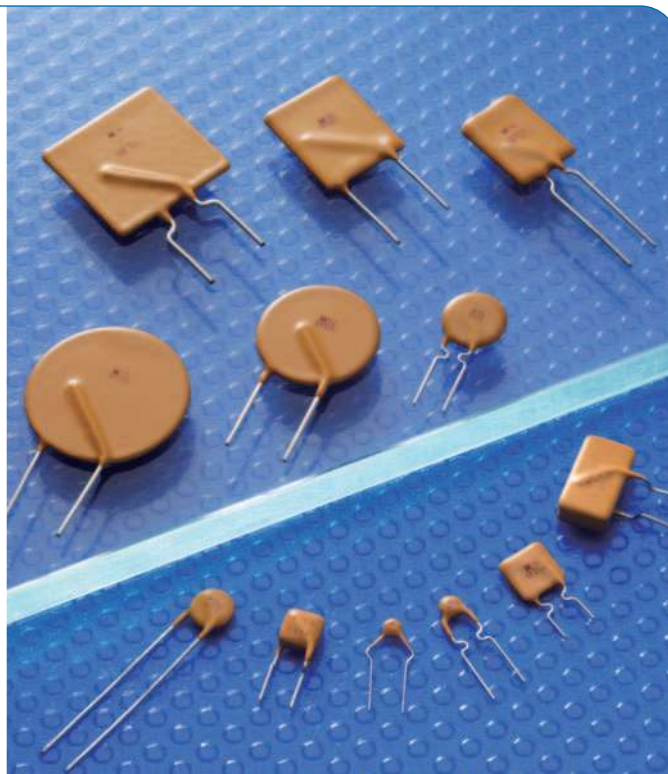
# PolySwitch Resettable Devices

## Radial-leaded Devices

Raychem Circuit Protection has pioneered PPTC technology for over 25 years. Our radial-leaded products represent the widest range of product capabilities.

- RGEF series for hold currents up to 14A
- RHEF series for flatter thermal derating and operating temperatures up to 125°C
- RUEF series for balance of voltage rating (30V) and hold current (up to 9A)
- RUSBF series for fast time-to-trip and low-resistance computer applications
- RTEF series specifically designed for IEEE-1394 applications
- RXEF series for low hold currents (down to 50mA) and high voltage rating (up to 72V)
- LVR/LVRL series for line voltage applications up to a continuous operating voltage of 265V<sub>AC</sub>/135V<sub>AC</sub>
- BBRF series for cable telephone applications
- Now offering Pb-free versions of all products. For Pb-free versions of R-line products simply add an "F" to the end of the series description.

Whether for design or volume application, Raychem Circuit Protection's radial-leaded products represent the most comprehensive and complete set of PPTC products available in the industry today.



### Benefits

- Many product choices give engineers more design flexibility
- Compatible with high-volume electronics assembly
- Assists in meeting regulatory requirements
- Higher voltage ratings allow use in new applications

### Features

- Broadest range of radial-leaded resettable devices available in the industry
- Current ratings from 50mA to 15A
- Voltage ratings from 6V (computer and electronic applications) to 265V<sub>AC</sub> line voltage applications
- Agency recognition : UL, CSA, TÜV
- Fast time-to-trip
- Low resistance

### Applications

- |                             |                                  |                                 |
|-----------------------------|----------------------------------|---------------------------------|
| • Satellite video receivers | • USB hub, ports and peripherals | • Phones                        |
| • Industrial controls       | • IEEE1394 ports                 | • Fax machines                  |
| • Transformers              | • CD-ROMs                        | • Analog and digital line cards |
| • Computer motherboards     | • Game machines                  | • Printers                      |
| • Modems                    | • Battery packs                  |                                 |

## Protection Application Selection Guide for Radial-leaded Devices

The guide below lists PolySwitch devices that are typically used in these applications.

Specifications for the suggested device part numbers can be found in this section.

Once a part number has been selected, the user should evaluate and test each product for its intended application.

| Protection Application                      | PolySwitch Resettable Devices—Key Selection Criteria |                  |                                         |
|---------------------------------------------|------------------------------------------------------|------------------|-----------------------------------------|
|                                             | Small Size                                           | Flatter Derating | Lower Current Higher Voltage            |
| Electromagnetic loads                       | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V)                             |
| Halogen lighting                            | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V)                             |
| Lighting ballast                            | RXEF (<72V), BBRF (<99V <sub>AC</sub> )              |                  | LVR (<265V <sub>AC</sub> )              |
| Loudspeakers                                | RXEF (<72V)                                          |                  | RXEF (<72V)                             |
| Medical equipment                           | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V)                             |
| MOSFET devices                              | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V)                             |
| Motors, fans and blowers                    | RXEF (<72V), RGEF (<16V)                             | RHEF (<30V)      | LVR (<265V <sub>AC</sub> )              |
| POS equipment                               | RXEF (<72V), RUEF (<30V)                             |                  |                                         |
| Process and industrial controls             | RXEF (<72V), RUEF (<30V)                             |                  |                                         |
| Satellite video receivers                   | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V)                             |
| Security and fire alarm systems             | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V), LVR (<265V <sub>AC</sub> ) |
| Test and measurement equipment              | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V), LVR (<265V <sub>AC</sub> ) |
| Transformers                                | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V), LVR (<265V <sub>AC</sub> ) |
| UL 1950/FCC Part 68 requirements            | RXEF (<72V)                                          |                  |                                         |
| DDC computer and consumer electronics       | RUEF (<30V)                                          |                  |                                         |
| IEEE-1394 computer and consumer electronics | RTEF (<33V)                                          |                  |                                         |
| Mouse and keyboard                          | RUEF (<30V)                                          |                  |                                         |
| SCSI                                        | RUEF (<30V)                                          |                  |                                         |
| USB                                         | RUSBF (<16V)                                         |                  |                                         |
| Traces and printed circuit board protection | RGEF (<16V), RUEF (<30V)                             | RHEF (<30V)      | RXEF (<72V)                             |

This list is not exhaustive. Raychem Circuit Protection welcomes customer's input for additional application ideas for PolySwitch resettable devices.

Table R1 - Product Series - Current Rating, Voltage Rating/Typical Resistance for Radial-leaded Devices

| Voltage Rating   | LVR<br>265V <sub>AC</sub> | LVRL<br>135V <sub>AC</sub> | BBRF<br>99V | RXEF<br>72V | RXEF<br>60V | RTEF<br>33V | RUEF<br>30V | RGEF<br>16V | RHEF<br>16V | RHEF<br>30V | RUSBF<br>16V | RUSBF<br>6V |
|------------------|---------------------------|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|
| Hold Current (A) | —                         | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.050            | 25Ω                       | —                          | —           | —           | 9.2Ω        | —           | —           | —           | —           | —           | —            | —           |
| 0.080            | 9.8Ω                      | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.100            | —                         | —                          | —           | —           | 3.50Ω       | —           | —           | —           | —           | —           | —            | —           |
| 0.110            | —                         | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.120            | 4.8Ω                      | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.145            | —                         | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.150            | —                         | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.160            | 3.4Ω                      | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.170            | —                         | —                          | —           | —           | 4.30Ω       | —           | —           | —           | —           | —           | —            | —           |
| 0.180            | —                         | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.200            | —                         | —                          | —           | 2.29Ω       | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.250            | 1.7Ω                      | —                          | —           | 1.60Ω       | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.300            | —                         | —                          | —           | 1.11Ω       | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.330            | 1.0Ω                      | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.400            | 0.80Ω                     | —                          | —           | 0.71Ω       | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.500            | —                         | —                          | —           | 0.64Ω       | —           | —           | —           | —           | —           | 0.68Ω       | —            | —           |
| 0.550            | 0.59Ω                     | —                          | 1.05Ω       | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.650            | —                         | —                          | —           | 0.40Ω       | —           | —           | —           | —           | —           | —           | —            | —           |
| 0.700            | —                         | —                          | —           | —           | —           | —           | —           | —           | —           | 0.42Ω       | —            | —           |
| 0.750            | —                         | 0.325Ω                     | 0.58Ω       | 0.325Ω      | —           | —           | —           | —           | —           | —           | —            | 0.14Ω       |
| 0.900            | —                         | —                          | —           | 0.255Ω      | —           | —           | 0.095Ω      | —           | —           | —           | 0.10Ω        | —           |
| 1.000            | —                         | 0.224Ω                     | —           | —           | —           | —           | —           | —           | —           | 0.24Ω       | —            | —           |
| 1.100            | —                         | —                          | —           | 0.200Ω      | —           | —           | 0.075Ω      | —           | —           | —           | 0.075Ω       | —           |
| 1.200            | —                         | —                          | —           | —           | —           | 0.097Ω      | —           | —           | —           | —           | —            | 0.080Ω      |
| 1.250            | —                         | 0.148Ω                     | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 1.350            | —                         | 0.138Ω                     | —           | 0.155Ω      | —           | 0.080Ω      | 0.060Ω      | —           | —           | —           | 0.060Ω       | —           |
| 1.550            | —                         | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | 0.058Ω      |
| 1.600            | —                         | —                          | —           | 0.115Ω      | —           | —           | 0.050Ω      | —           | —           | —           | 0.050Ω       | —           |
| 1.850            | —                         | —                          | —           | 0.100Ω      | —           | —           | 0.045Ω      | —           | —           | —           | 0.045Ω       | —           |
| 1.900            | —                         | —                          | —           | —           | —           | 0.054Ω      | —           | —           | —           | —           | —            | —           |

Table R1 - Product Series - Current Rating, Voltage Rating/Typical Resistance for Radial-leaded Devices ... Cont'd

| Voltage Rating   | LVR<br>265V <sub>AC</sub> | LVRL<br>135V <sub>AC</sub> | BBRF<br>99V | RXEF<br>72V | RXEF<br>60V | RTEF<br>33V | RUEF<br>30V | RGEF<br>16V | RHEF<br>16V | RHEF<br>30V | RUSBF<br>16V | RUSBF<br>6V |
|------------------|---------------------------|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|
| Hold Current (A) | —                         | —                          | —           | —           | —           | —           | —           | —           | —           | —           | —            | —           |
| 2.000            | —                         | 0.431Ω                     | —           | —           | —           | —           | —           | —           | 0.061Ω      | —           | —            | —           |
| 2.500            | —                         | —                          | —           | 0.065Ω      | —           | —           | 0.030Ω      | 0.038Ω      | —           | —           | 0.030Ω       | —           |
| 3.000            | —                         | —                          | —           | 0.050Ω      | —           | —           | 0.035Ω      | 0.0514Ω     | 0.043Ω      | —           | —            | —           |
| 3.750            | —                         | —                          | —           | 0.040Ω      | —           | —           | —           | —           | —           | —           | —            | —           |
| 4.000            | —                         | —                          | —           | —           | —           | —           | 0.020Ω      | 0.030Ω      | 0.032Ω      | —           | —            | —           |
| 4.500            | —                         | —                          | —           | —           | —           | —           | —           | —           | 0.029Ω      | —           | —            | —           |
| 5.000            | —                         | —                          | —           | —           | —           | —           | 0.020Ω      | 0.0192Ω     | —           | —           | —            | —           |
| 5.500            | —                         | —                          | —           | —           | —           | —           | —           | —           | 0.020Ω      | —           | —            | —           |
| 6.000            | —                         | —                          | —           | —           | —           | —           | 0.013Ω      | 0.0145Ω     | 0.0175Ω     | —           | —            | —           |
| 6.500            | —                         | —                          | —           | —           | —           | —           | —           | —           | 0.0144Ω     | —           | —            | —           |
| 7.000            | —                         | —                          | —           | —           | —           | —           | 0.013Ω      | 0.0105Ω     | 0.0132Ω     | —           | —            | —           |
| 7.500            | —                         | —                          | —           | —           | —           | —           | —           | —           | 0.012Ω      | —           | —            | —           |
| 8.000            | —                         | —                          | —           | —           | —           | —           | 0.013Ω      | 0.0086Ω     | 0.0110Ω     | —           | —            | —           |
| 9.000            | —                         | —                          | —           | —           | —           | —           | 0.008Ω      | 0.0070Ω     | 0.010Ω      | —           | —            | —           |
| 10.00            | —                         | —                          | —           | —           | —           | —           | —           | 0.0056Ω     | 0.0083Ω     | —           | —            | —           |
| 11.00            | —                         | —                          | —           | —           | —           | —           | —           | 0.0050Ω     | 0.0073Ω     | —           | —            | —           |
| 12.00            | —                         | —                          | —           | —           | —           | —           | —           | 0.0046Ω     | —           | —           | —            | —           |
| 13.00            | —                         | —                          | —           | —           | —           | —           | —           | —           | 0.0055Ω     | —           | —            | —           |
| 14.00            | —                         | —                          | —           | —           | —           | —           | —           | 0.0040Ω     | 0.005Ω      | —           | —            | —           |
| 15.00            | —                         | —                          | —           | —           | —           | —           | —           | —           | 0.005Ω      | —           | —            | —           |

Table R2 - Thermal Derating for Radial-leaded Devices [Hold Current (A) at Ambient Temperature (°C)]

| Part Number                                               |       | Maximum Ambient Temperature |       |      |       |      |       |       |       |       |      |       |
|-----------------------------------------------------------|-------|-----------------------------|-------|------|-------|------|-------|-------|-------|-------|------|-------|
|                                                           |       | -40°C                       | -20°C | 0°C  | 20°C  | 25°C | 40°C  | 50°C  | 60°C  | 70°C  | 85°C | 125°C |
| <b>LVR/LVRL</b><br>240V <sub>AC</sub> /120V <sub>AC</sub> |       |                             |       |      |       |      |       |       |       |       |      |       |
| LVR005                                                    | —     | 0.08                        | 0.06  | 0.05 | 0.05  | 0.04 | 0.04  | 0.03  | 0.03  | 0.03  | 0.02 | —     |
| LVR008                                                    | —     | 0.12                        | 0.10  | 0.08 | 0.08  | 0.07 | 0.06  | 0.05  | 0.04  | 0.04  | 0.03 | —     |
| LVR012                                                    | —     | 0.18                        | 0.15  | 0.12 | 0.12  | 0.10 | 0.09  | 0.07  | 0.06  | 0.06  | 0.04 | —     |
| LVR016                                                    | —     | 0.24                        | 0.20  | 0.16 | 0.16  | 0.13 | 0.11  | 0.10  | 0.08  | 0.08  | 0.05 | —     |
| LVR025                                                    | —     | 0.38                        | 0.32  | 0.26 | 0.25  | 0.21 | 0.18  | 0.15  | 0.13  | 0.13  | 0.09 | —     |
| LVR033                                                    | —     | 0.50                        | 0.42  | 0.34 | 0.33  | 0.27 | 0.23  | 0.20  | 0.17  | 0.17  | 0.11 | —     |
| LVR040                                                    | —     | 0.61                        | 0.51  | 0.41 | 0.40  | 0.33 | 0.28  | 0.24  | 0.20  | 0.20  | 0.14 | —     |
| LVR055K                                                   | —     | 0.80                        | 0.68  | 0.55 | 0.54  | 0.46 | 0.40  | 0.35  | 0.29  | 0.29  | 0.22 | —     |
| LVR055S                                                   | —     | 0.80                        | 0.68  | 0.55 | 0.54  | 0.46 | 0.40  | 0.35  | 0.29  | 0.29  | 0.22 | —     |
| New LVRL075S                                              | —     | 1.08                        | 0.93  | 0.75 | 0.74  | 0.64 | 0.57  | 0.51  | 0.44  | 0.44  | 0.35 | —     |
| New LVRL100S                                              | —     | 1.40                        | 1.19  | 1.00 | 0.94  | 0.82 | 0.73  | 0.65  | 0.57  | 0.57  | 0.45 | —     |
| New LVRL125S                                              | —     | 1.80                        | 1.53  | 1.25 | 1.20  | 1.04 | 0.94  | 0.83  | 0.73  | 0.73  | 0.60 | —     |
| New LVRL135S                                              | —     | 2.00                        | 1.65  | 1.35 | 1.29  | 1.12 | 1.01  | 0.90  | 0.78  | 0.78  | 0.65 | —     |
| New LVRL200S                                              | —     | 3.05                        | 2.55  | 2.00 | 1.97  | 1.72 | 1.55  | 1.39  | 1.22  | 1.22  | 0.98 | —     |
| <b>BBRF</b><br>99V <sub>AC</sub>                          |       |                             |       |      |       |      |       |       |       |       |      |       |
| BBRF550                                                   | 0.85  | 0.75                        | 0.65  | 0.55 | —     | 0.45 | 0.40  | 0.35  | 0.30  | 0.30  | 0.22 | —     |
| BBRF750                                                   | 1.15  | 1.00                        | 0.90  | 0.75 | —     | 0.61 | 0.55  | 0.48  | 0.41  | 0.41  | 0.30 | —     |
| <b>RXEF</b><br>60V                                        |       |                             |       |      |       |      |       |       |       |       |      |       |
| RXEF005                                                   | 0.078 | 0.068                       | 0.06  | 0.05 | 0.048 | 0.04 | 0.035 | 0.032 | 0.027 | 0.027 | 0.02 | —     |
| RXEF010                                                   | 0.16  | 0.14                        | 0.11  | 0.10 | 0.096 | 0.08 | 0.072 | 0.067 | 0.05  | 0.05  | 0.04 | —     |
| RXEF017                                                   | 0.26  | 0.23                        | 0.21  | 0.17 | 0.16  | 0.14 | 0.12  | 0.11  | 0.09  | 0.09  | 0.07 | —     |
| <b>RXEF</b><br>72V                                        |       |                             |       |      |       |      |       |       |       |       |      |       |
| RXEF020                                                   | 0.31  | 0.27                        | 0.24  | 0.20 | 0.19  | 0.16 | 0.14  | 0.13  | 0.11  | 0.11  | 0.08 | —     |
| RXEF025                                                   | 0.39  | 0.34                        | 0.30  | 0.25 | 0.24  | 0.20 | 0.18  | 0.16  | 0.14  | 0.14  | 0.10 | —     |
| RXEF030                                                   | 0.47  | 0.41                        | 0.36  | 0.30 | 0.29  | 0.24 | 0.22  | 0.20  | 0.16  | 0.16  | 0.12 | —     |
| RXEF040                                                   | 0.62  | 0.54                        | 0.48  | 0.40 | 0.38  | 0.32 | 0.29  | 0.25  | 0.22  | 0.22  | 0.16 | —     |
| RXEF050                                                   | 0.78  | 0.68                        | 0.60  | 0.50 | 0.48  | 0.41 | 0.36  | 0.32  | 0.27  | 0.27  | 0.20 | —     |
| RXEF065                                                   | 1.01  | 0.88                        | 0.77  | 0.65 | 0.62  | 0.53 | 0.47  | 0.41  | 0.35  | 0.35  | 0.26 | —     |
| RXEF075                                                   | 1.16  | 1.02                        | 0.89  | 0.75 | 0.72  | 0.61 | 0.54  | 0.47  | 0.41  | 0.41  | 0.30 | —     |
| RXEF090                                                   | 1.40  | 1.22                        | 1.07  | 0.90 | 0.86  | 0.73 | 0.65  | 0.57  | 0.49  | 0.49  | 0.36 | —     |

Table R2 - Thermal Derating for Radial-leaded Devices [Hold Current (A) at Ambient Temperature (°C)] ... Cont'd

| Part Number                           | Maximum Ambient Temperature |       |       |      |      |      |      |      |      |      |       |
|---------------------------------------|-----------------------------|-------|-------|------|------|------|------|------|------|------|-------|
|                                       | -40°C                       | -20°C | 0°C   | 20°C | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C | 125°C |
| <b>RXEF</b><br>72V                    |                             |       |       |      |      |      |      |      |      |      |       |
| RXEF110                               | 1.71                        | 1.50  | 1.31  | 1.10 | 1.06 | 0.89 | 0.79 | 0.69 | 0.59 | 0.44 | —     |
| RXEF135                               | 2.09                        | 1.84  | 1.61  | 1.35 | 1.30 | 1.09 | 0.97 | 0.85 | 0.73 | 0.54 | —     |
| RXEF160                               | 2.48                        | 2.18  | 1.90  | 1.60 | 1.54 | 1.30 | 1.15 | 1.01 | 0.86 | 0.64 | —     |
| RXEF185                               | 2.87                        | 2.52  | 2.20  | 1.85 | 1.78 | 1.50 | 1.33 | 1.17 | 1.00 | 0.74 | —     |
| RXEF250                               | 3.88                        | 3.40  | 2.98  | 2.50 | 2.40 | 2.03 | 1.80 | 1.58 | 1.35 | 1.00 | —     |
| RXEF300                               | 4.65                        | 4.08  | 3.57  | 3.00 | 2.88 | 2.43 | 2.16 | 1.89 | 1.62 | 1.20 | —     |
| RXEF375                               | 5.81                        | 5.10  | 4.46  | 3.75 | 3.60 | 3.04 | 2.70 | 2.36 | 2.03 | 1.50 | —     |
| <b>RTEF</b><br>33V                    |                             |       |       |      |      |      |      |      |      |      |       |
| RTEF120                               | 1.74                        | 1.56  | 1.38  | 1.20 | 1.16 | 1.00 | 0.92 | 0.82 | 0.73 | 0.60 | —     |
| RTEF135                               | 1.96                        | 1.76  | 1.55  | 1.35 | 1.31 | 1.12 | 1.04 | 0.92 | 0.82 | 0.68 | —     |
| RTEF190                               | 2.76                        | 2.47  | 2.19  | 1.90 | 1.84 | 1.58 | 1.50 | 1.29 | 1.16 | 0.95 | —     |
| <b>RUEF</b><br>30V                    |                             |       |       |      |      |      |      |      |      |      |       |
| RUEF090                               | 1.31                        | 1.17  | 1.04  | 0.90 | 0.87 | 0.75 | 0.69 | 0.61 | 0.55 | 0.47 | —     |
| RUEF110                               | 1.60                        | 1.43  | 1.27  | 1.10 | 1.07 | 0.91 | 0.85 | 0.75 | 0.67 | 0.57 | —     |
| RUEF135                               | 1.96                        | 1.76  | 1.55  | 1.35 | 1.31 | 1.12 | 1.04 | 0.92 | 0.82 | 0.70 | —     |
| RUEF160                               | 2.32                        | 2.08  | 1.84  | 1.60 | 1.55 | 1.33 | 1.23 | 1.09 | 0.98 | 0.83 | —     |
| RUEF185                               | 2.68                        | 2.41  | 2.13  | 1.85 | 1.79 | 1.54 | 1.42 | 1.26 | 1.13 | 0.96 | —     |
| RUEF250                               | 3.63                        | 3.25  | 2.88  | 2.5  | 2.43 | 2.08 | 1.93 | 1.70 | 1.53 | 1.30 | —     |
| RUEF300                               | 4.35                        | 3.90  | 3.45  | 3.0  | 2.91 | 2.49 | 2.31 | 2.04 | 1.83 | 1.56 | —     |
| RUEF400                               | 5.80                        | 5.20  | 4.60  | 4.0  | 3.88 | 3.32 | 3.08 | 2.72 | 2.44 | 2.08 | —     |
| RUEF500                               | 7.25                        | 6.50  | 5.75  | 5.0  | 4.85 | 4.15 | 3.85 | 3.40 | 3.05 | 2.60 | —     |
| RUEF600                               | 8.70                        | 7.80  | 6.90  | 6.0  | 5.82 | 4.98 | 4.62 | 4.08 | 3.66 | 3.12 | —     |
| RUEF700                               | 10.15                       | 9.10  | 8.05  | 7.0  | 6.79 | 5.81 | 5.39 | 4.76 | 4.27 | 3.64 | —     |
| RUEF800                               | 11.60                       | 10.40 | 9.20  | 8.0  | 7.76 | 6.64 | 6.16 | 5.44 | 4.88 | 4.16 | —     |
| RUEF900                               | 13.05                       | 11.70 | 10.35 | 9.0  | 8.73 | 7.47 | 6.93 | 6.12 | 5.49 | 4.68 | —     |
| <b>RHEF</b><br>30V - High Temperature |                             |       |       |      |      |      |      |      |      |      |       |
| RHEF050                               | 0.68                        | 0.62  | 0.56  | 0.51 | 0.5  | 0.44 | 0.40 | 0.36 | 0.34 | 0.28 | 0.12  |
| RHEF070                               | 0.95                        | 0.87  | 0.79  | 0.72 | 0.7  | 0.62 | 0.56 | 0.51 | 0.47 | 0.39 | 0.17  |
| RHEF100                               | 1.36                        | 1.24  | 1.13  | 1.03 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.56 | 0.24  |
| <b>RUSBF</b><br>16V                   |                             |       |       |      |      |      |      |      |      |      |       |
| RUSBF090                              | 1.31                        | 1.17  | 1.04  | 0.90 | 0.87 | 0.75 | 0.69 | 0.61 | 0.55 | 0.47 | —     |
| RUSBF110                              | 1.60                        | 1.43  | 1.27  | 1.10 | 1.07 | 1.00 | 0.92 | 0.75 | 0.67 | 0.57 | —     |
| RUSBF135                              | 1.96                        | 1.76  | 1.55  | 1.35 | 1.31 | 1.12 | 1.04 | 0.92 | 0.82 | 0.70 | —     |
| RUSBF160                              | 2.32                        | 2.08  | 1.84  | 1.60 | 1.55 | 1.33 | 1.23 | 1.09 | 0.98 | 0.83 | —     |
| RUSBF185                              | 2.68                        | 2.41  | 2.13  | 1.85 | 1.79 | 1.54 | 1.42 | 1.26 | 1.13 | 0.96 | —     |
| RUSBF250                              | 3.63                        | 3.25  | 2.88  | 2.50 | 2.43 | 2.08 | 1.93 | 1.70 | 1.53 | 1.30 | —     |
| <b>RGEF</b><br>16V - High Temperature |                             |       |       |      |      |      |      |      |      |      |       |
| RGEF250                               | 3.7                         | 3.3   | 3.0   | 2.6  | 2.5  | 2.2  | 2.0  | 1.3  | 1.6  | 1.2  | —     |
| RGEF300                               | 4.4                         | 4.0   | 3.6   | 3.1  | 3.0  | 2.6  | 2.4  | 2.1  | 1.9  | 1.4  | —     |
| RGEF400                               | 5.9                         | 5.3   | 4.8   | 4.1  | 4.0  | 3.5  | 3.2  | 2.8  | 2.5  | 1.9  | —     |
| RGEF500                               | 7.3                         | 6.6   | 6.0   | 5.2  | 5.0  | 4.4  | 4.0  | 3.6  | 3.1  | 2.4  | —     |
| RGEF600                               | 8.8                         | 8.0   | 7.2   | 6.2  | 6.0  | 5.2  | 4.8  | 4.2  | 3.8  | 2.8  | —     |
| RGEF700                               | 10.3                        | 9.3   | 8.4   | 7.3  | 7.0  | 6.2  | 5.6  | 5.0  | 4.4  | 3.3  | —     |
| RGEF800                               | 11.7                        | 10.7  | 9.6   | 8.3  | 8.0  | 6.9  | 6.4  | 5.6  | 5.1  | 3.7  | —     |
| RGEF900                               | 13.2                        | 11.9  | 10.7  | 9.4  | 9.0  | 7.9  | 7.2  | 6.4  | 5.6  | 4.2  | —     |
| RGEF1000                              | 14.7                        | 13.3  | 12.0  | 10.3 | 10.0 | 8.7  | 8.0  | 7.0  | 6.3  | 4.7  | —     |
| RGEF1100                              | 16.1                        | 14.6  | 13.1  | 11.5 | 11.0 | 9.7  | 8.8  | 7.8  | 6.9  | 5.2  | —     |
| RGEF1200                              | 17.6                        | 16.0  | 14.4  | 12.4 | 12.0 | 10.4 | 9.6  | 8.4  | 7.6  | 5.6  | —     |
| RGEF1400                              | 20.5                        | 18.7  | 16.8  | 14.5 | 14.0 | 12.1 | 11.2 | 9.8  | 8.9  | 6.5  | —     |
| <b>RHEF</b><br>16V - High Temperature |                             |       |       |      |      |      |      |      |      |      |       |
| RHEF200                               | 2.71                        | 2.49  | 2.26  | 2.06 | 2.00 | 1.77 | 1.60 | 1.46 | 1.34 | 1.11 | 0.49  |
| New RHEF300                           | 4.07                        | 3.74  | 3.41  | 3.09 | 3.00 | 2.65 | 2.40 | 2.21 | 2.00 | 1.66 | 0.74  |
| RHEF400                               | 5.57                        | 5.11  | 4.65  | 4.22 | 4.00 | 3.62 | 3.29 | 3.01 | 2.73 | 2.27 | 1.01  |
| RHEF450                               | 6.10                        | 5.60  | 5.10  | 4.60 | 4.50 | 4.00 | 3.60 | 3.30 | 3.00 | 2.50 | 1.10  |
| New RHEF550                           | 7.47                        | 6.86  | 6.24  | 5.66 | 5.50 | 4.85 | 4.41 | 4.04 | 3.66 | 3.05 | 1.36  |
| RHEF600                               | 8.20                        | 7.50  | 6.80  | 6.20 | 6.00 | 5.30 | 4.90 | 4.40 | 4.00 | 3.30 | 1.50  |



RoHS compliant, ELV compliant

Table R2 - Thermal Derating for Radial-led Devices [Hold Current (A) at Ambient Temperature (°C)] ... Cont'd

|                                                                                  |                                | Maximum Ambient Temperature |       |       |       |       |       |       |       |       |      |       |      |
|----------------------------------------------------------------------------------|--------------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|
|                                                                                  |                                | -40°C                       | -20°C | 0°C   | 20°C  | 25°C  | 40°C  | 50°C  | 60°C  | 70°C  | 85°C | 125°C |      |
| Part Number                                                                      |                                |                             |       |       |       |       |       |       |       |       |      |       |      |
|  | RHEF<br>16V - High Temperature |                             |       |       |       |       |       |       |       |       |      |       |      |
|                                                                                  |                                | RHEF650                     | 8.80  | 8.10  | 7.40  | 6.70  | 6.50  | 5.70  | 5.30  | 4.80  | 4.30 | 3.60  | 1.60 |
|                                                                                  | New                            | RHEF700                     | 9.51  | 8.73  | 7.95  | 7.20  | 7.00  | 6.17  | 5.61  | 5.15  | 4.66 | 3.88  | 1.73 |
|                                                                                  |                                | RHEF750                     | 10.20 | 9.40  | 8.60  | 7.70  | 7.50  | 6.60  | 6.10  | 5.60  | 5.00 | 4.10  | 1.90 |
|                                                                                  | New                            | RHEF800                     | 10.87 | 9.98  | 9.08  | 8.23  | 8.00  | 7.06  | 6.41  | 5.88  | 5.33 | 4.43  | 1.97 |
|                                                                                  |                                | RHEF900                     | 12.21 | 11.19 | 10.16 | 9.26  | 9.00  | 7.97  | 7.20  | 6.56  | 6.04 | 5.01  | 2.19 |
|                                                                                  |                                | RHEF1000                    | 13.60 | 12.50 | 11.40 | 10.30 | 10.00 | 8.80  | 8.10  | 7.40  | 6.60 | 5.50  | 2.50 |
|                                                                                  | New                            | RHEF1100                    | 14.94 | 13.72 | 12.49 | 11.31 | 11.00 | 9.70  | 8.82  | 8.09  | 7.32 | 6.09  | 2.71 |
|                                                                                  |                                | RHEF1300                    | 17.70 | 16.30 | 14.80 | 13.40 | 13.00 | 11.40 | 10.50 | 9.60  | 8.60 | 7.20  | 3.30 |
|                                                                                  | New                            | RHEF1400                    | 19.01 | 17.46 | 15.89 | 14.40 | 14.00 | 12.35 | 11.22 | 10.29 | 9.32 | 7.76  | 3.45 |
|                                                                                  | RHEF1500                       | 20.40                       | 18.80 | 17.10 | 15.50 | 15.00 | 13.20 | 12.10 | 11.10 | 9.90  | 8.30 | 3.80  |      |
|  | RUSBF<br>6V                    |                             |       |       |       |       |       |       |       |       |      |       |      |
|                                                                                  |                                | RUSBF075                    | 1.05  | 0.95  | 0.85  | 0.75  | 0.73  | 0.65  | 0.60  | 0.55  | 0.50 | 0.43  | —    |
|                                                                                  |                                | RUSBF120                    | 1.69  | 1.52  | 1.36  | 1.20  | 1.16  | 1.04  | 0.96  | 0.88  | 0.80 | 0.68  | —    |
|                                                                                  |                                | RUSBF155                    | 2.17  | 1.96  | 1.75  | 1.55  | 1.50  | 1.34  | 1.24  | 1.14  | 1.03 | 0.88  | —    |
|                                                                                  |                                |                             |       |       |       |       |       |       |       |       |      |       |      |

Figures R1-R5 - Thermal Derating Curve for Radial-led Devices

A=LVR

B=LVRL

Figure R1

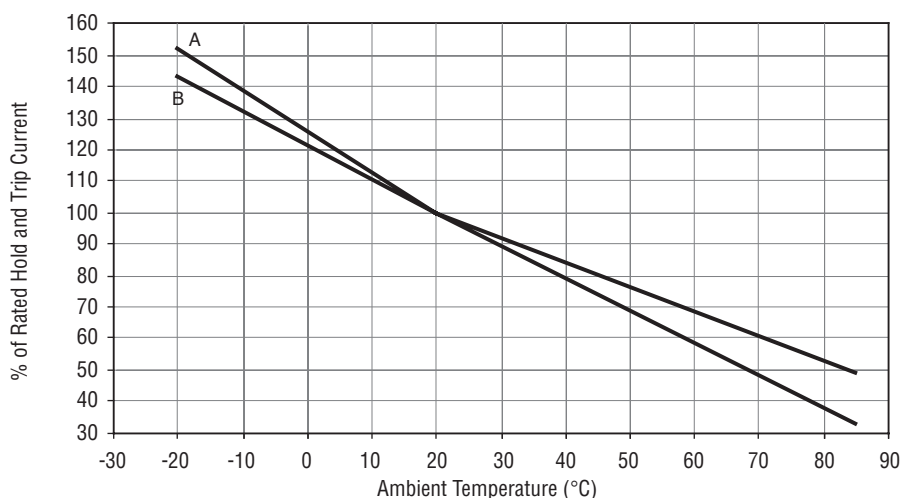
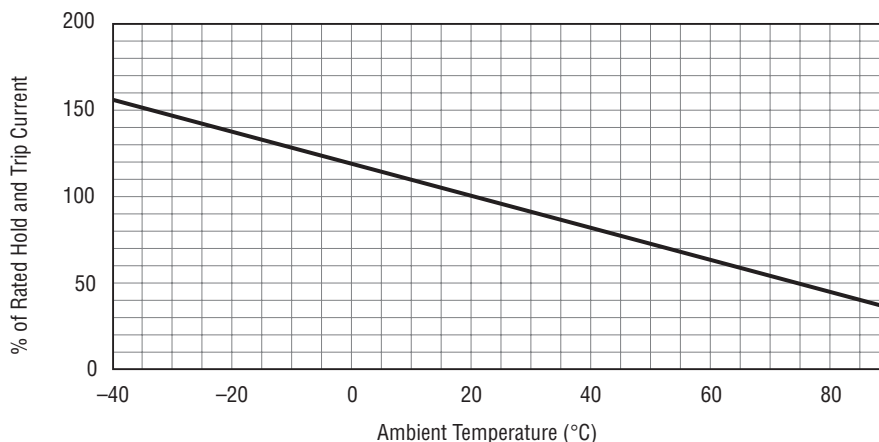

RXEF and  
BBRF

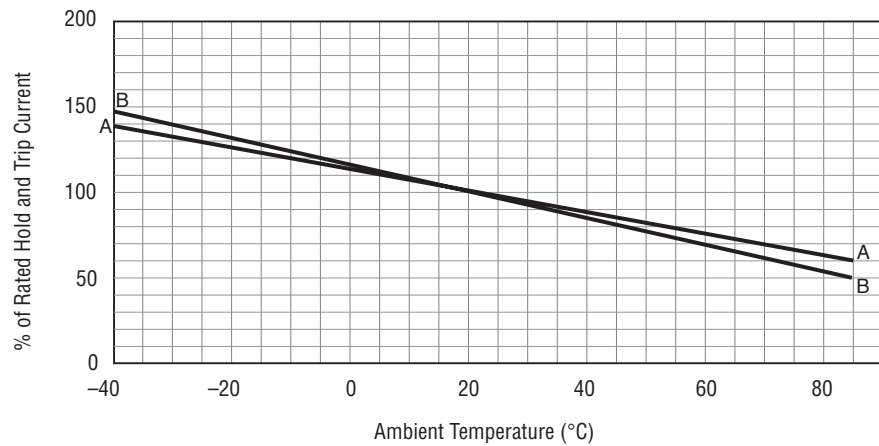
Figure R2



A = RUSBF075,  
RUSBF120,  
RUSBF155

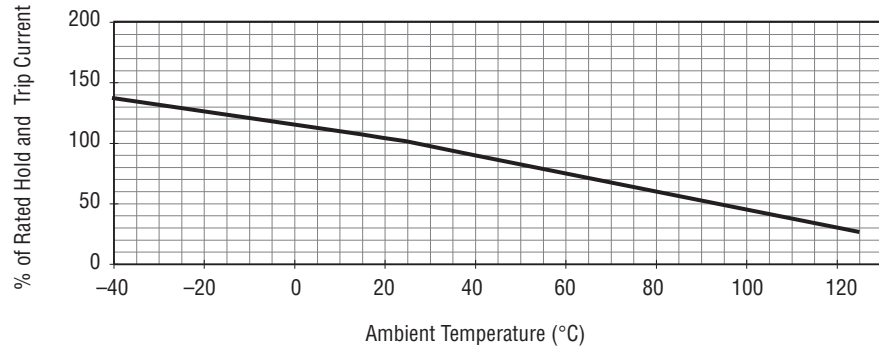
B = RUEF,  
RTEF,  
and all other  
RUSBF

Figure R3



RHEF

Figure R4



RGEF

Figure R5

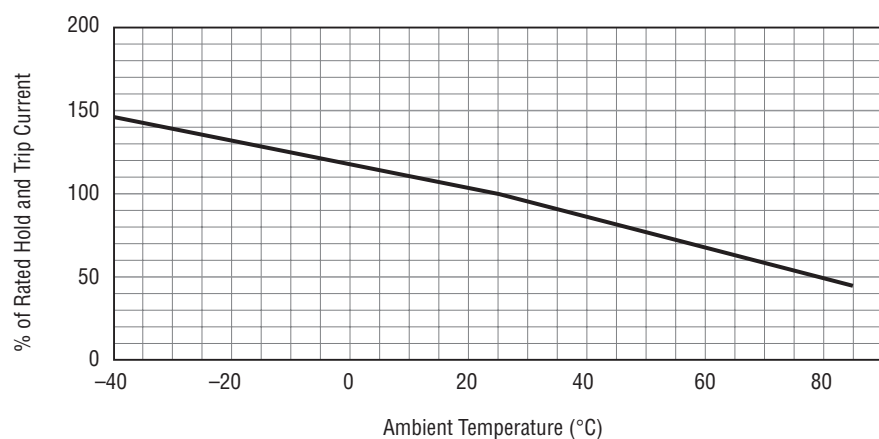


Table R3 - Electrical Characteristics for Radial-leaded Devices

| Part Number                                               | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A) | V <sub>Max</sub><br>(V) | V <sub>Max</sub><br>(V) | Interrupt<br>(V <sub>AC</sub> ) | I <sub>Max</sub><br>(A) | P <sub>D TYP</sub><br>(W) | Max. Time-to-trip<br>(s) | R <sub>Min</sub><br>(Ω) | R <sub>MAX</sub><br>(Ω) | R <sub>1, Max</sub><br>(Ω) | Figure for<br>Dimensions | Lead Size<br>[mm <sup>2</sup> (AWG)] |
|-----------------------------------------------------------|-----------------------|-----------------------|-------------------------|-------------------------|---------------------------------|-------------------------|---------------------------|--------------------------|-------------------------|-------------------------|----------------------------|--------------------------|--------------------------------------|
| <b>LVR/LVRL</b><br>240V <sub>AC</sub> /120V <sub>AC</sub> |                       |                       |                         |                         |                                 |                         |                           |                          |                         |                         |                            |                          |                                      |
| LVR005K                                                   | 0.05                  | 0.12                  | 240                     | 265                     | 1.0                             | 0.7                     | 0.25                      | 15.0                     | 18.50                   | 31.00                   | 65.00                      | R7                       | [0.205mm <sup>2</sup> (24)]          |
| LVR005S                                                   | 0.05                  | 0.12                  | 240                     | 265                     | 1.0                             | 0.7                     | 0.25                      | 15.0                     | 18.50                   | 31.00                   | 65.00                      | R7                       | [0.205mm <sup>2</sup> (24)]          |
| LVR008K                                                   | 0.08                  | 0.19                  | 240                     | 265                     | 1.2                             | 0.8                     | 0.40                      | 15.0                     | 7.40                    | 12.00                   | 26.00                      | R7                       | [0.205mm <sup>2</sup> (24)]          |
| LVR008S                                                   | 0.08                  | 0.19                  | 240                     | 265                     | 1.2                             | 0.8                     | 0.40                      | 15.0                     | 7.40                    | 12.00                   | 26.00                      | R7                       | [0.205mm <sup>2</sup> (24)]          |
| LVR012K                                                   | 0.12                  | 0.30                  | 240                     | 265                     | 1.2                             | 1.0                     | 0.60                      | 15.0                     | 3.00                    | 6.50                    | 12.00                      | R7                       | [0.205mm <sup>2</sup> (24)]          |
| LVR012S                                                   | 0.12                  | 0.30                  | 240                     | 265                     | 1.2                             | 1.0                     | 0.60                      | 15.0                     | 3.00                    | 6.50                    | 12.00                      | R7                       | [0.205mm <sup>2</sup> (24)]          |
| LVR016K                                                   | 0.16                  | 0.37                  | 240                     | 265                     | 2.0                             | 1.4                     | 0.80                      | 15.0                     | 2.50                    | 4.10                    | 7.80                       | R7                       | [0.205mm <sup>2</sup> (24)]          |
| LVR016S                                                   | 0.16                  | 0.37                  | 240                     | 265                     | 2.0                             | 1.4                     | 0.80                      | 15.0                     | 2.50                    | 4.10                    | 7.80                       | R7                       | [0.205mm <sup>2</sup> (24)]          |
| LVR025K                                                   | 0.25                  | 0.56                  | 240                     | 265                     | 3.5                             | 1.5                     | 1.25                      | 18.5                     | 1.30                    | 2.10                    | 3.80                       | R8                       | [0.33mm <sup>2</sup> (22)]           |
| LVR025S                                                   | 0.25                  | 0.56                  | 240                     | 265                     | 3.5                             | 1.5                     | 1.25                      | 18.5                     | 1.30                    | 2.10                    | 3.80                       | R8                       | [0.33mm <sup>2</sup> (22)]           |
| LVR033S                                                   | 0.33                  | 0.74                  | 240                     | 265                     | 4.5                             | 1.7                     | 1.25                      | 18.5                     | 0.83                    | 1.24                    | 2.60                       | R8                       | [0.33mm <sup>2</sup> (22)]           |
| LVR033K                                                   | 0.33                  | 0.74                  | 240                     | 265                     | 4.5                             | 1.7                     | 1.25                      | 18.5                     | 0.83                    | 1.24                    | 2.60                       | R8                       | [0.33mm <sup>2</sup> (22)]           |
| LVR040K                                                   | 0.40                  | 0.90                  | 240                     | 265                     | 5.5                             | 2.0                     | 2.00                      | 24.0                     | 0.60                    | 0.97                    | 1.90                       | R8                       | [0.33mm <sup>2</sup> (22)]           |
| LVR040S                                                   | 0.40                  | 0.90                  | 240                     | 265                     | 5.5                             | 2.0                     | 2.00                      | 24.0                     | 0.60                    | 0.97                    | 1.90                       | R8                       | [0.33mm <sup>2</sup> (22)]           |
| LVR055K                                                   | 0.55                  | 1.25                  | 240                     | 265                     | 7.0                             | 3.4                     | 2.75                      | 26.0                     | 0.45                    | 0.73                    | 1.45                       | R8                       | [0.52mm <sup>2</sup> (20)]           |
| LVR055S                                                   | 0.55                  | 1.25                  | 240                     | 265                     | 7.0                             | 3.4                     | 2.75                      | 26.0                     | 0.45                    | 0.73                    | 1.45                       | R8                       | [0.52mm <sup>2</sup> (20)]           |
| LVRL075S                                                  | 0.75                  | 1.52                  | 120                     | 135                     | 7.5                             | 1.8                     | 3.75                      | 14.4                     | 0.25                    | 0.39                    | 0.69                       | R8                       | [0.81mm <sup>2</sup> (20)]           |
| LVRL100S                                                  | 1.00                  | 2.00                  | 120                     | 135                     | 10.0                            | 2.2                     | 5.00                      | 13.6                     | 0.18                    | 0.27                    | 0.47                       | R8                       | [0.81mm <sup>2</sup> (20)]           |
| LVRL125S                                                  | 1.25                  | 2.50                  | 120                     | 135                     | 12.5                            | 2.0                     | 6.25                      | 20.0                     | 0.11                    | 0.18                    | 0.33                       | R8                       | [0.81mm <sup>2</sup> (20)]           |
| LVRL135S                                                  | 1.35                  | 2.70                  | 120                     | 135                     | 13.5                            | 2.8                     | 6.75                      | 20.0                     | 0.11                    | 0.17                    | 0.30                       | R8                       | [0.81mm <sup>2</sup> (20)]           |
| LVRL200S                                                  | 2.00                  | 4.20                  | 120                     | 135                     | 20.0                            | 3.9                     | 10.00                     | 36.0                     | 0.08                    | 0.12                    | 0.21                       | R8                       | [0.81mm <sup>2</sup> (20)]           |
| <b>BBRF</b><br>99V <sub>AC</sub>                          |                       |                       |                         |                         |                                 |                         |                           |                          |                         |                         |                            |                          |                                      |
| BBRF550                                                   | 0.55                  | 1.1                   | 99                      | —                       | 20                              | 1.5                     | 1.60                      | 60                       | 0.8                     | 1.30                    | 1.95                       | R6, R15, R16             | [0.52mm <sup>2</sup> (20)]           |
| BBRF750                                                   | 0.75                  | 1.5                   | 99                      | —                       | 20                              | 1.7                     | 2.00                      | 60                       | 0.4                     | 0.75                    | 1.20                       | R6, R15, R16             | [0.52mm <sup>2</sup> (20)]           |
| <b>RXEF</b><br>60V                                        |                       |                       |                         |                         |                                 |                         |                           |                          |                         |                         |                            |                          |                                      |
| RXEF005                                                   | 0.05                  | 0.10                  | 60                      | —                       | 40                              | 0.26                    | 0.25                      | 5.0                      | 7.3                     | 11.10                   | 20.0                       | R9, R15, R16             | [0.128mm <sup>2</sup> (26)]          |
| RXEF010                                                   | 0.10                  | 0.20                  | 60                      | —                       | 40                              | 0.38                    | 0.50                      | 4.0                      | 2.5                     | 4.50                    | 7.5                        | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF017                                                   | 0.17                  | 0.34                  | 60                      | —                       | 40                              | 0.48                    | 0.85                      | 3.0                      | 3.3                     | 5.21                    | 8.0                        | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| <b>RXEF</b><br>72V                                        |                       |                       |                         |                         |                                 |                         |                           |                          |                         |                         |                            |                          |                                      |
| RXEF020                                                   | 0.20                  | 0.40                  | 72                      | —                       | 40                              | 0.41                    | 1.00                      | 2.2                      | 1.83                    | 2.75                    | 4.40                       | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF025                                                   | 0.25                  | 0.50                  | 72                      | —                       | 40                              | 0.45                    | 1.25                      | 2.5                      | 1.25                    | 1.95                    | 3.00                       | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF030                                                   | 0.30                  | 0.60                  | 72                      | —                       | 40                              | 0.49                    | 1.50                      | 3.0                      | 0.88                    | 1.33                    | 2.10                       | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF040                                                   | 0.40                  | 0.80                  | 72                      | —                       | 40                              | 0.56                    | 2.00                      | 3.8                      | 0.55                    | 0.86                    | 1.29                       | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF050                                                   | 0.50                  | 1.00                  | 72                      | —                       | 40                              | 0.77                    | 2.50                      | 4.0                      | 0.50                    | 0.77                    | 1.17                       | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF065                                                   | 0.65                  | 1.30                  | 72                      | —                       | 40                              | 0.88                    | 3.25                      | 5.3                      | 0.31                    | 0.48                    | 0.72                       | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF075                                                   | 0.75                  | 1.50                  | 72                      | —                       | 40                              | 0.92                    | 3.75                      | 6.3                      | 0.25                    | 0.40                    | 0.60                       | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF090                                                   | 0.90                  | 1.80                  | 72                      | —                       | 40                              | 0.99                    | 4.50                      | 7.2                      | 0.20                    | 0.31                    | 0.47                       | R10, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RXEF110                                                   | 1.10                  | 2.20                  | 72                      | —                       | 40                              | 1.50                    | 5.50                      | 8.2                      | 0.15                    | 0.25                    | 0.38                       | R11, R15, R16            | [0.52mm <sup>2</sup> (20)]           |
| RXEF135                                                   | 1.35                  | 2.70                  | 72                      | —                       | 40                              | 1.70                    | 6.75                      | 9.6                      | 0.12                    | 0.19                    | 0.30                       | R11, R15, R16            | [0.52mm <sup>2</sup> (20)]           |
| RXEF160                                                   | 1.60                  | 3.20                  | 72                      | —                       | 40                              | 1.90                    | 8.00                      | 11.4                     | 0.09                    | 0.14                    | 0.22                       | R11, R15, R16            | [0.52mm <sup>2</sup> (20)]           |
| RXEF185                                                   | 1.85                  | 3.70                  | 72                      | —                       | 40                              | 2.10                    | 9.25                      | 12.6                     | 0.08                    | 0.12                    | 0.19                       | R11, R15, R16            | [0.52mm <sup>2</sup> (20)]           |
| RXEF250                                                   | 2.50                  | 5.00                  | 72                      | —                       | 40                              | 2.50                    | 12.50                     | 15.6                     | 0.05                    | 0.08                    | 0.13                       | R11, R15, R16            | [0.52mm <sup>2</sup> (20)]           |
| RXEF300                                                   | 3.00                  | 6.00                  | 72                      | —                       | 40                              | 2.80                    | 15.00                     | 19.8                     | 0.04                    | 0.06                    | 0.10                       | R11, R15, R16            | [0.52mm <sup>2</sup> (20)]           |
| RXEF375                                                   | 3.75                  | 7.50                  | 72                      | —                       | 40                              | 3.20                    | 18.75                     | 24.0                     | 0.03                    | 0.05                    | 0.08                       | R11, R15, R16            | [0.52mm <sup>2</sup> (20)]           |
| <b>RTEF</b><br>33V                                        |                       |                       |                         |                         |                                 |                         |                           |                          |                         |                         |                            |                          |                                      |
| RTEF120                                                   | 1.20                  | 2.3                   | 33                      | —                       | 40                              | 0.78                    | 6.00                      | 3.5                      | 0.074                   | 0.12                    | 0.18                       | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RTEF135                                                   | 1.35                  | 2.5                   | 33                      | —                       | 40                              | 0.84                    | 6.75                      | 4.5                      | 0.059                   | 0.10                    | 0.143                      | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RTEF190                                                   | 1.90                  | 3.0                   | 33                      | —                       | 40                              | 0.90                    | 9.50                      | 3.5                      | 0.045                   | 0.063                   | 0.092                      | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| <b>RUEF</b><br>30V                                        |                       |                       |                         |                         |                                 |                         |                           |                          |                         |                         |                            |                          |                                      |
| RUEF090                                                   | 0.90                  | 1.8                   | 30                      | —                       | 100                             | 0.6                     | 4.50                      | 5.9                      | 0.070                   | 0.12                    | 0.22                       | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RUEF110                                                   | 1.10                  | 2.2                   | 30                      | —                       | 100                             | 0.7                     | 5.50                      | 6.6                      | 0.070                   | 0.10                    | 0.17                       | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RUEF135                                                   | 1.35                  | 2.7                   | 30                      | —                       | 100                             | 0.8                     | 6.75                      | 7.3                      | 0.040                   | 0.08                    | 0.13                       | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RUEF160                                                   | 1.60                  | 3.2                   | 30                      | —                       | 100                             | 0.9                     | 8.50                      | 8.0                      | 0.030                   | 0.07                    | 0.11                       | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RUEF185                                                   | 1.85                  | 3.7                   | 30                      | —                       | 100                             | 1.0                     | 9.25                      | 8.7                      | 0.030                   | 0.06                    | 0.09                       | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RUEF250                                                   | 2.5                   | 5.0                   | 30                      | —                       | 100                             | 1.2                     | 12.50                     | 10.3                     | 0.020                   | 0.04                    | 0.07                       | R12, R15, R16            | [0.205mm <sup>2</sup> (24)]          |
| RUEF300                                                   | 3.0                   | 6.0                   | 30                      | —                       | 100                             | 2.0                     | 15.00                     | 10.8                     | 0.020                   | 0.05                    | 0.08                       | R13, R15, R16            | [0.52mm <sup>2</sup> (20)]           |

Table R3 - Electrical Characteristics for Radial-led Devices

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| Part Number                            | $I_H$<br>(A) | $I_T$<br>(A) | $V_{Max}$<br>(V) | $V_{Max}$ Interrupt<br>(V <sub>AC</sub> ) | $I_{Max}$<br>(A) | $P_D$ TYP<br>(W) | Max. Time-to-trip<br>(s) | $R_{Min}$<br>( $\Omega$ ) | $R_{Max}$<br>( $\Omega$ ) | $R_{1Max}$<br>( $\Omega$ ) | Figures for Dimensions | Lead Size<br>[mm <sup>2</sup> (AWG)]      |
|----------------------------------------|--------------|--------------|------------------|-------------------------------------------|------------------|------------------|--------------------------|---------------------------|---------------------------|----------------------------|------------------------|-------------------------------------------|
| <b>RUEF</b><br>30V                     |              |              |                  |                                           |                  |                  |                          |                           |                           |                            |                        |                                           |
| RUEF400                                | 4.0          | 8.0          | 30               | —                                         | 100              | 2.5              | 20.0                     | 12.7                      | 0.010                     | 0.03                       | 0.05                   | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RUEF500                                | 5.0          | 10.0         | 30               | —                                         | 100              | 3.0              | 25.0                     | 14.5                      | 0.010                     | 0.03                       | 0.05                   | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RUEF600                                | 6.0          | 12.0         | 30               | —                                         | 100              | 3.5              | 30.0                     | 16.0                      | 0.005                     | 0.02                       | 0.04                   | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RUEF700                                | 7.0          | 14.0         | 30               | —                                         | 100              | 3.8              | 35.0                     | 17.5                      | 0.005                     | 0.02                       | 0.03                   | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RUEF800                                | 8.0          | 16.0         | 30               | —                                         | 100              | 4.0              | 40.0                     | 18.8                      | 0.005                     | 0.013                      | 0.02                   | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RUEF900                                | 9.0          | 18.0         | 30               | —                                         | 100              | 4.2              | 45.0                     | 20.0                      | 0.005                     | 0.01                       | 0.02                   | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| <b>RHEF</b><br>30V - High Temperature* |              |              |                  |                                           |                  |                  |                          |                           |                           |                            |                        |                                           |
| RHEF050                                | 0.50         | 0.90         | 30               | —                                         | 40               | 0.9              | 2.5                      | 2.5                       | 0.48                      | 0.79                       | 1.10                   | R10, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RHEF070                                | 0.7          | 1.4          | 30               | —                                         | 40               | 1.4              | 3.5                      | 4.0                       | 0.30                      | 0.54                       | 0.80                   | R12, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RHEF100                                | 1.0          | 1.8          | 30               | —                                         | 40               | 1.4              | 5.0                      | 5.2                       | 0.18                      | 0.31                       | 0.43                   | R10, R15, R16 [0.205mm <sup>2</sup> (24)] |
| <b>RUSBF</b><br>16V                    |              |              |                  |                                           |                  |                  |                          |                           |                           |                            |                        |                                           |
| RUSBF090                               | 0.90         | 1.8          | 16               | —                                         | 40               | 0.6              | 8.0                      | 1.2                       | 0.070                     | 0.120                      | 0.180                  | R12, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RUSBF110                               | 1.10         | 2.2          | 16               | —                                         | 40               | 0.7              | 8.0                      | 2.3                       | 0.050                     | 0.095                      | 0.140                  | R12, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RUSBF135                               | 1.35         | 2.7          | 16               | —                                         | 40               | 0.8              | 8.0                      | 4.5                       | 0.040                     | 0.074                      | 0.115                  | R12, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RUSBF160                               | 1.60         | 3.2          | 16               | —                                         | 40               | 0.9              | 8.0                      | 9.0                       | 0.030                     | 0.061                      | 0.110                  | R12, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RUSBF185                               | 1.85         | 3.7          | 16               | —                                         | 40               | 1.0              | 8.0                      | 10.0                      | 0.030                     | 0.051                      | 0.090                  | R12, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RUSBF250                               | 2.5          | 5.0          | 16               | —                                         | 40               | 1.2              | 8.0                      | 40.0                      | 0.020                     | 0.036                      | 0.060                  | R12, R15, R16 [0.205mm <sup>2</sup> (24)] |
| <b>RGEF*</b><br>16V                    |              |              |                  |                                           |                  |                  |                          |                           |                           |                            |                        |                                           |
| RGEF250                                | 2.5          | 4.7          | 16               | —                                         | 100              | 1.0              | 12.5                     | 5.0                       | 0.022                     | 0.035                      | 0.053                  | R12, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RGEF300                                | 3.0          | 5.1          | 16               | —                                         | 100              | 2.3              | 15.0                     | 1.0                       | 0.038                     | 0.0645                     | 0.0975                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF400                                | 4.0          | 6.8          | 16               | —                                         | 100              | 2.4              | 20.0                     | 1.7                       | 0.021                     | 0.0385                     | 0.0600                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF500                                | 5.0          | 8.5          | 16               | —                                         | 100              | 2.6              | 25.0                     | 2.0                       | 0.015                     | 0.0230                     | 0.0340                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF600                                | 6.0          | 10.2         | 16               | —                                         | 100              | 2.8              | 30.0                     | 3.3                       | 0.010                     | 0.0185                     | 0.0280                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF700                                | 7.0          | 11.9         | 16               | —                                         | 100              | 3.0              | 35.0                     | 3.5                       | 0.0077                    | 0.0130                     | 0.0200                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF800                                | 8.0          | 13.6         | 16               | —                                         | 100              | 3.0              | 40.0                     | 5.0                       | 0.0056                    | 0.0110                     | 0.0175                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF900                                | 9.0          | 15.3         | 16               | —                                         | 100              | 3.3              | 45.0                     | 5.5                       | 0.0047                    | 0.0092                     | 0.0135                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF1000                               | 10.0         | 17.0         | 16               | —                                         | 100              | 3.6              | 50.0                     | 6.0                       | 0.0040                    | 0.0071                     | 0.0102                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF1100                               | 11.0         | 18.7         | 16               | —                                         | 100              | 3.7              | 55.0                     | 7.0                       | 0.0037                    | 0.0062                     | 0.0089                 | R13, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RGEF1200                               | 12.0         | 20.4         | 16               | —                                         | 100              | 4.2              | 60.0                     | 7.5                       | 0.0033                    | 0.00595                    | 0.0086                 | R13, R15, R16 [0.823mm <sup>2</sup> (18)] |
| RGEF1400                               | 14.0         | 23.8         | 16               | —                                         | 100              | 4.6              | 70.0                     | 9.0                       | 0.0026                    | 0.00445                    | 0.0064                 | R13, R15, R16 [0.823mm <sup>2</sup> (18)] |
| <b>RHEF High Temperature*</b><br>16V   |              |              |                  |                                           |                  |                  |                          |                           |                           |                            |                        |                                           |
| RHEF200                                | 2.0          | 3.8          | 16               | —                                         | 100              | 1.4              | 12.5                     | 3.0                       | 0.045                     | 0.074                      | 0.11                   | R10, R15, R16 [0.205mm <sup>2</sup> (24)] |
| New RHEF300                            | 3.0          | 6.0          | 16               | —                                         | 100              | 3.0              | 15.0                     | 5.0                       | 0.033                     | 0.053                      | 0.079                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RHEF400                                | 4.0          | 7.0          | 16               | —                                         | 100              | 3.3              | 20.0                     | 5.0                       | 0.024                     | 0.040                      | 0.060                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RHEF450                                | 4.5          | 7.8          | 16               | —                                         | 100              | 3.6              | 22.5                     | 3.0                       | 0.022                     | 0.0355                     | 0.054                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| New RHEF550                            | 5.5          | 10.0         | 16               | —                                         | 100              | 3.5              | 27.5                     | 6.0                       | 0.015                     | 0.025                      | 0.037                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RHEF600                                | 6.0          | 10.8         | 16               | —                                         | 100              | 4.1              | 30.0                     | 5.0                       | 0.013                     | 0.0215                     | 0.032                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RHEF650                                | 6.5          | 12.0         | 16               | —                                         | 100              | 4.3              | 32.5                     | 5.5                       | 0.011                     | 0.0175                     | 0.026                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| New RHEF700                            | 7.0          | 13.0         | 16               | —                                         | 100              | 4.0              | 35.0                     | 7.0                       | 0.010                     | 0.016                      | 0.025                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RHEF750                                | 7.5          | 13.1         | 16               | —                                         | 100              | 4.5              | 37.5                     | 7.0                       | 0.0094                    | 0.0150                     | 0.022                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| New RHEF800                            | 8.0          | 15.0         | 16               | —                                         | 100              | 4.2              | 40.0                     | 8.0                       | 0.008                     | 0.0135                     | 0.020                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RHEF900                                | 9.0          | 16.5         | 16               | —                                         | 100              | 5.0              | 45.0                     | 10.0                      | 0.0074                    | 0.0120                     | 0.017                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RHEF1000                               | 10.0         | 18.5         | 16               | —                                         | 100              | 5.3              | 50.0                     | 9.0                       | 0.0062                    | 0.0103                     | 0.015                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| New RHEF1100                           | 11.0         | 20.0         | 16               | —                                         | 100              | 5.5              | 55.0                     | 11.0                      | 0.0055                    | 0.009                      | 0.013                  | R14, R15, R16 [0.52mm <sup>2</sup> (20)]  |
| RHEF1300                               | 13.0         | 24.0         | 16               | —                                         | 100              | 6.9              | 65.0                     | 13.0                      | 0.0041                    | 0.0068                     | 0.010                  | R14, R15, R16 [0.823mm <sup>2</sup> (18)] |
| New RHEF1400                           | 14.0         | 27.0         | 16               | —                                         | 100              | 6.9              | 70.0                     | 13.0                      | 0.003                     | 0.006                      | 0.009                  | R14, R15, R16 [0.823mm <sup>2</sup> (18)] |
| RHEF1500                               | 15.0         | 28.0         | 16               | —                                         | 100              | 7.0              | 75.0                     | 20.0                      | 0.0032                    | 0.0063                     | 0.0092                 | R14, R15, R16 [0.823mm <sup>2</sup> (18)] |
| <b>RUSBF</b><br>6V                     |              |              |                  |                                           |                  |                  |                          |                           |                           |                            |                        |                                           |
| RUSBF075                               | 0.75         | 1.30         | 6                | —                                         | 40               | 0.3              | 8.0                      | 0.4                       | 0.110                     | 0.175                      | 0.23                   | R10, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RUSBF120                               | 1.20         | 2.00         | 6                | —                                         | 40               | 0.6              | 8.0                      | 0.5                       | 0.065                     | 0.0975                     | 0.14                   | R10, R15, R16 [0.205mm <sup>2</sup> (24)] |
| RUSBF155                               | 1.55         | 2.65         | 6                | —                                         | 40               | 0.6              | 8.0                      | 0.5                       | 0.043                     | 0.0705                     | 0.10                   | R10, R15, R16 [0.205mm <sup>2</sup> (24)] |

**Notes:**

- $I_H$  : Hold current: maximum current device will pass without interruption in 20°C still air.  
 $I_T$  : Trip current: minimum current that will switch the device from low resistance to high resistance in 20°C still air.  
 $R_{min}$  : Minimum resistance of device as supplied at 20°C unless otherwise specified.  
 $R_{max}$  : Maximum resistance of device as supplied at 20°C unless otherwise specified.  
 $V_{max}$  : Maximum continuous voltage device can withstand without damage at rated current.  
 $V_{max}$  Interrupt : Under specified conditions this is the highest voltage that can be applied to the device at the maximum current.  
 $I_{max}$  : Maximum fault current device can withstand without damage at rated voltage.  
 $P_D$  : Power dissipated from device when in the tripped state in 20°C still air.  
 $R_{1max}$  : Maximum resistance of device when measured one hour post reflow (surface-mount device) or one hour post trip (radial-led device) at 20°C unless otherwise specified.

\* Electrical characteristics determined at 25°C

# Figures R6-R16 - Dimension Figures for Radial-leaded Devices

Figure R6

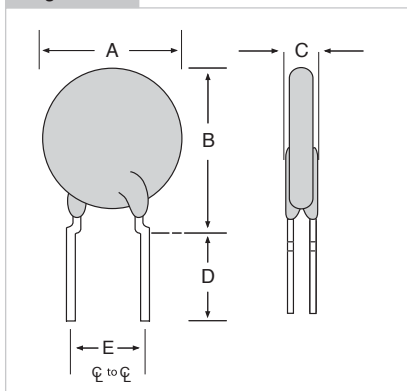


Figure R7

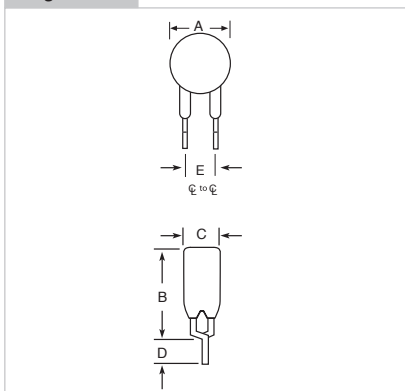


Figure R8

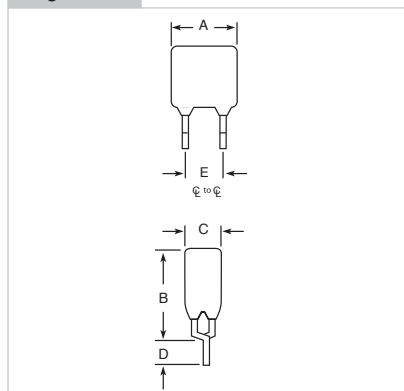


Figure R9

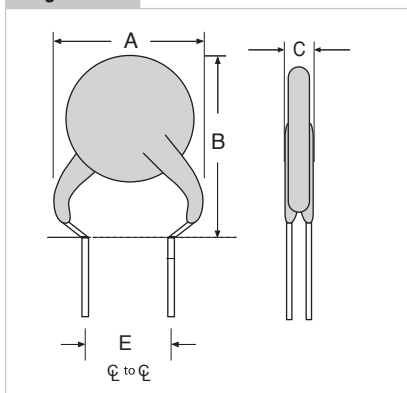


Figure R10

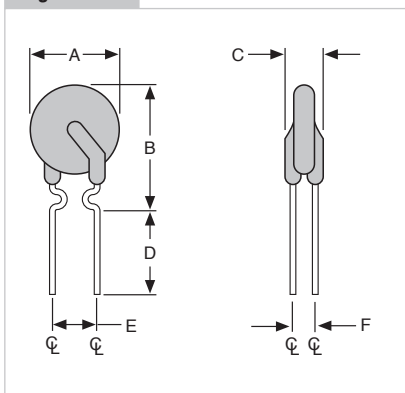


Figure R11

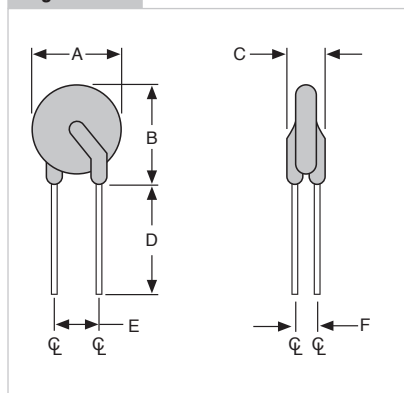


Figure R12

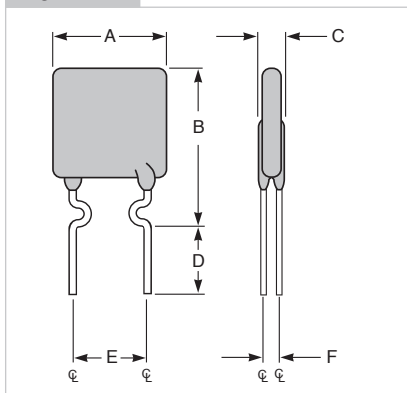


Figure R13

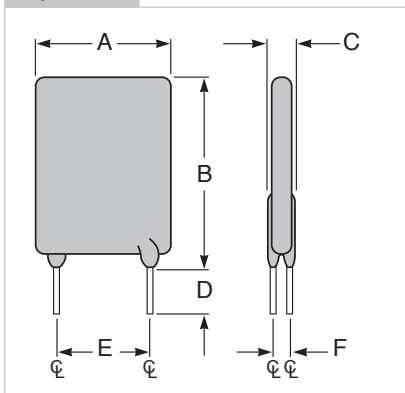


Figure R14

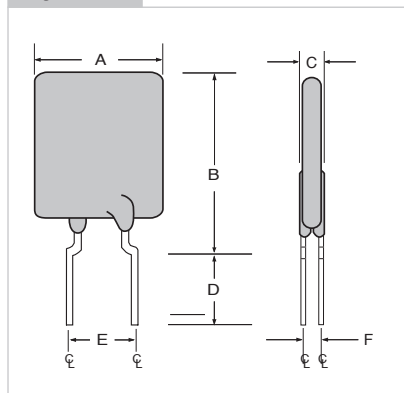


Figure R15

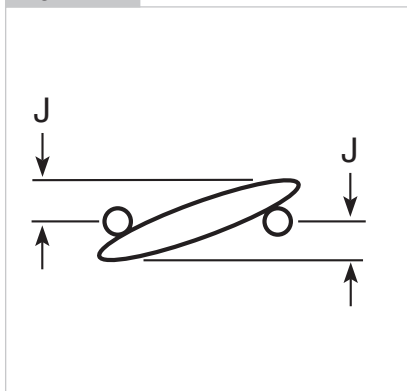
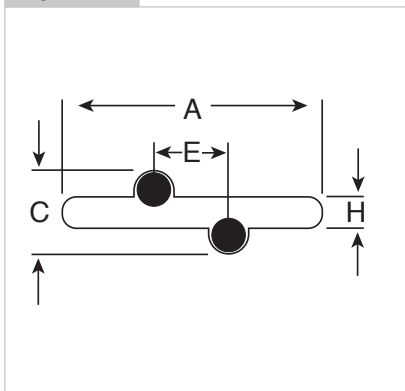


Figure R16



**Table R4 - Dimensions for Radial-leaded Devices in Millimeters (Inches)**

| Part<br>Number                                                                                                        | Dimension |        |      |        |        |        |        |      |        |        |      |         | Figure |          |
|-----------------------------------------------------------------------------------------------------------------------|-----------|--------|------|--------|--------|--------|--------|------|--------|--------|------|---------|--------|----------|
|                                                                                                                       | A         |        | B    |        | C      |        | D      |      | E      |        | F    | H       |        | J        |
|                                                                                                                       | Min.      | Max.   | Min. | Max.   | Min.   | Max.   | Min.   | Max. | Min.   | Max.   | TYP. | TYP.    | TYP.   |          |
|  <b>LVR/LVRL</b><br><b>240V/120V</b> |           |        |      |        |        |        |        |      |        |        |      |         |        |          |
| LVR005K                                                                                                               | —         | 8.3    | —    | 12.9   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R7       |
|                                                                                                                       | —         | (0.33) | —    | (0.51) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR005S                                                                                                               | —         | 8.3    | —    | 10.7   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R7       |
|                                                                                                                       | —         | (0.33) | —    | (0.43) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR008K                                                                                                               | —         | 8.3    | —    | 12.9   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R7       |
|                                                                                                                       | —         | (0.33) | —    | (0.51) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR008S                                                                                                               | —         | 8.3    | —    | 10.7   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R7       |
|                                                                                                                       | —         | (0.33) | —    | (0.43) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR012K                                                                                                               | —         | 8.3    | —    | 12.9   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R7       |
|                                                                                                                       | —         | (0.33) | —    | (0.51) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR012S                                                                                                               | —         | 8.3    | —    | 10.7   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | —        |
|                                                                                                                       | —         | (0.33) | —    | (0.43) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR016K                                                                                                               | —         | 9.9    | —    | 13.8   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R7       |
|                                                                                                                       | —         | (0.39) | —    | (0.54) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR016S                                                                                                               | —         | 9.9    | —    | 12.5   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R7       |
|                                                                                                                       | —         | (0.39) | —    | (0.50) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR025K                                                                                                               | —         | 9.6    | —    | 18.8   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.38) | —    | (0.74) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR025S                                                                                                               | —         | 9.6    | —    | 17.4   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.38) | —    | (0.69) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR033S                                                                                                               | —         | 11.4   | —    | 16.5   | 4.3    | 5.8    | 7.6    | —    | —      | 3.8    | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.45) | —    | (0.65) | (0.17) | (0.23) | (0.30) | —    | —      | (0.15) | —    | —       | —      |          |
| LVR033K                                                                                                               | —         | 11.4   | —    | 19.0   | 4.3    | 5.8    | 7.6    | —    | —      | 3.8    | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.45) | —    | (0.75) | (0.17) | (0.23) | (0.30) | —    | —      | (0.15) | —    | —       | —      |          |
| LVR040K                                                                                                               | —         | 11.5   | —    | 20.9   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.46) | —    | (0.82) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR040S                                                                                                               | —         | 11.5   | —    | 19.5   | —      | 3.8    | 7.6    | —    | 4.3    | 5.8    | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.46) | —    | (0.77) | —      | (0.15) | (0.30) | —    | (0.17) | (0.23) | —    | —       | —      |          |
| LVR055K                                                                                                               | —         | 14.0   | —    | 21.7   | —      | 5.8    | 7.6    | —    | 2.0    | 3.0    | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.55) | —    | (0.85) | —      | (0.23) | (0.30) | —    | (0.08) | (0.12) | —    | —       | —      |          |
| LVR055S                                                                                                               | —         | 14.0   | —    | 21.7   | —      | 5.8    | 7.6    | —    | —      | 3.8    | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.55) | —    | (0.85) | —      | (0.23) | (0.30) | —    | —      | (0.15) | —    | —       | —      |          |
| <b>New</b> LVRL075S                                                                                                   | —         | 10.9   | —    | 17.0   | —      | 5.08   | 7.6    | —    | —      | —      | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.43) | —    | (0.67) | —      | (0.20) | (0.30) | —    | —      | —      | —    | —       | —      |          |
| <b>New</b> LVRL100S                                                                                                   | —         | 11.5   | —    | 20.1   | —      | 5.08   | 7.6    | —    | —      | —      | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.45) | —    | (0.79) | —      | (0.20) | (0.30) | —    | —      | —      | —    | —       | —      |          |
| <b>New</b> LVRL125S                                                                                                   | —         | 14.0   | —    | 21.7   | —      | 5.08   | 7.6    | —    | —      | —      | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.55) | —    | (0.85) | —      | (0.20) | (0.30) | —    | —      | —      | —    | —       | —      |          |
| <b>New</b> LVRL135S                                                                                                   | —         | 16.3   | —    | 21.7   | —      | 5.08   | 7.6    | —    | —      | —      | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.64) | —    | (0.85) | —      | (0.20) | (0.30) | —    | —      | —      | —    | —       | —      |          |
| <b>New</b> LVRL200S                                                                                                   | —         | 23.5   | —    | 27.9   | —      | 10.15  | 7.6    | —    | —      | —      | —    | —       | —      | R8       |
|                                                                                                                       | —         | (0.93) | —    | (1.25) | —      | (0.40) | (0.30) | —    | —      | —      | —    | —       | —      |          |
|  <b>BBRF</b><br><b>99V</b>         |           |        |      |        |        |        |        |      |        |        |      |         |        |          |
| BBRF550                                                                                                               | —         | 10.9   | —    | 14.0   | —      | 3.6    | 7.6    | —    | 4.3    | 5.8    | —    | 1.37    | 1.2    | R6, R15, |
|                                                                                                                       |           | (0.43) |      | (0.55) |        | (0.14) | (0.3)  |      | (0.17) | (0.23) |      | (0.054) | (0.05) | R16      |
| BBRF750                                                                                                               | —         | 11.9   | —    | 15.5   | —      | 3.6    | 7.6    | —    | 4.3    | 5.8    | —    | 1.37    | 1.2    | R6, R15, |
|                                                                                                                       |           | (0.47) |      | (0.61) |        | (0.14) | (0.3)  |      | (0.17) | (0.23) |      | (0.054) | (0.05) | R16      |

Table R4 - Dimensions for Radial-leaded Devices in Millimeters (Inches)

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| Part Number     | Dimension |                |      |                |      |               |               |      |               |                |      |                 |               |                  |
|-----------------|-----------|----------------|------|----------------|------|---------------|---------------|------|---------------|----------------|------|-----------------|---------------|------------------|
|                 | A         |                | B    |                | C    |               | D             |      | E             |                | F    | H               | J             | Figure           |
|                 | Min.      | Max.           | Min. | Max.           | Min. | Max.          | Min.          | Max. | Min.          | Max.           | TYP. | TYP.            | TYP.          |                  |
| <b>RXEF 60V</b> |           |                |      |                |      |               |               |      |               |                |      |                 |               |                  |
| RXEF005         | —         | 8.0<br>(0.32)  | —    | 8.3<br>(0.33)  | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.07<br>(0.042) | 1.0<br>(0.04) | R9, R15,<br>R16  |
| RXEF010         | —         | 7.4<br>(0.29)  | —    | 11.6<br>(0.46) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.07<br>(0.042) | 1.0<br>(0.04) | R10, R15,<br>R16 |
| RXEF017         | —         | 7.4<br>(0.29)  | —    | 12.7<br>(0.50) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.68<br>(0.066) | 1.7<br>(0.07) | R10, R15,<br>R16 |
| RXEF020         | —         | 7.4<br>(0.29)  | —    | 11.7<br>(0.46) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.17<br>(0.046) | 1.0<br>(0.04) | R10, R15,<br>R16 |
| RXEF025         | —         | 7.4<br>(0.29)  | —    | 12.7<br>(0.50) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.17<br>(0.046) | 1.0<br>(0.04) | R10, R15,<br>R16 |
| RXEF030         | —         | 7.4<br>(0.29)  | —    | 12.7<br>(0.50) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.17<br>(0.046) | 1.0<br>(0.04) | R10, R15,<br>R16 |
| RXEF040         | —         | 7.6<br>(0.30)  | —    | 13.5<br>(0.53) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.17<br>(0.046) | 1.2<br>(0.05) | R10, R15,<br>R16 |
| RXEF050         | —         | 7.9<br>(0.31)  | —    | 13.7<br>(0.54) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.17<br>(0.046) | 1.2<br>(0.05) | R10, R15,<br>R16 |
| RXEF065         | —         | 9.4<br>(0.37)  | —    | 14.5<br>(0.57) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.17<br>(0.046) | 1.5<br>(0.06) | R10, R15,<br>R16 |
| RXEF075         | —         | 10.2<br>(0.40) | —    | 15.2<br>(0.60) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.17<br>(0.046) | 1.5<br>(0.06) | R10, R15,<br>R16 |
| RXEF090         | —         | 11.2<br>(0.44) | —    | 15.8<br>(0.62) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.17<br>(0.046) | 1.5<br>(0.06) | R10, R15,<br>R16 |
| RXEF110         | —         | 12.8<br>(0.50) | —    | 17.5<br>(0.69) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.37<br>(0.054) | 1.2<br>(0.05) | R11, R15,<br>R16 |
| RXEF135         | —         | 14.5<br>(0.57) | —    | 19.1<br>(0.75) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.37<br>(0.054) | 1.2<br>(0.05) | R11, R15,<br>R16 |
| RXEF160         | —         | 16.3<br>(0.64) | —    | 20.8<br>(0.82) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.37<br>(0.054) | 1.5<br>(0.06) | R11, R15,<br>R16 |
| RXEF185         | —         | 17.5<br>(0.69) | —    | 22.4<br>(0.88) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.37<br>(0.054) | 1.5<br>(0.06) | R11, R15,<br>R16 |
| RXEF250         | —         | 20.8<br>(0.82) | —    | 25.4<br>(1.00) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 9.4<br>(0.37) | 10.9<br>(0.43) | —    | 1.37<br>(0.054) | 1.7<br>(0.07) | R11, R15,<br>R16 |
| RXEF300         | —         | 23.9<br>(0.94) | —    | 28.6<br>(1.13) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 9.4<br>(0.37) | 10.9<br>(0.43) | —    | 1.37<br>(0.054) | 1.7<br>(0.07) | R11, R15,<br>R16 |
| RXEF375         | —         | 27.2<br>(1.07) | —    | 31.8<br>(1.25) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 9.4<br>(0.37) | 10.9<br>(0.43) | —    | 1.37<br>(0.054) | 1.7<br>(0.07) | R11, R15,<br>R16 |
| <b>RTEF 33V</b> |           |                |      |                |      |               |               |      |               |                |      |                 |               |                  |
| RTEF120         | —         | 7.4<br>(0.29)  | —    | 12.2<br>(0.48) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 0.8<br>(0.03) | R12, R15,<br>R16 |
| RTEF135         | —         | 7.4<br>(0.29)  | —    | 14.2<br>(0.56) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 0.8<br>(0.03) | R12, R15,<br>R16 |
| RTEF190         | —         | 8.9<br>(0.35)  | —    | 13.5<br>(0.53) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 1.0<br>(0.04) | R12, R15,<br>R16 |
| <b>RUEF 30V</b> |           |                |      |                |      |               |               |      |               |                |      |                 |               |                  |
| RUEF090         | —         | 7.4<br>(0.29)  | —    | 12.2<br>(0.48) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 0.8<br>(0.03) | R12, R15,<br>R16 |
| RUEF110         | —         | 7.4<br>(0.29)  | —    | 14.2<br>(0.56) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 0.8<br>(0.03) | R12, R15,<br>R16 |
| RUEF135         | —         | 8.9<br>(0.35)  | —    | 13.5<br>(0.53) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 1.0<br>(0.04) | R12, R15,<br>R16 |
| RUEF160         | —         | 8.9<br>(0.35)  | —    | 15.2<br>(0.60) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 1.0<br>(0.04) | R12, R15,<br>R16 |
| RUEF185         | —         | 10.2<br>(0.40) | —    | 15.7<br>(0.62) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 1.0<br>(0.04) | R12, R15,<br>R16 |
| RUEF250         | —         | 11.4<br>(0.45) | —    | 18.3<br>(0.72) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 0.89<br>(0.035) | 1.2<br>(0.05) | R12, R15,<br>R16 |
| RUEF300         | —         | 11.4<br>(0.45) | —    | 16.5<br>(0.65) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.19<br>(0.047) | 1.5<br>(0.06) | R13, R15,<br>R16 |
| RUEF400         | —         | 14.0<br>(0.55) | —    | 19.3<br>(0.76) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —    | 1.19<br>(0.047) | 1.7<br>(0.07) | R13, R15,<br>R16 |

Table R4 - Dimensions for Radial-leaded Devices in Millimeters (Inches)

... Cont'd

| Part Number                 | Dimension      |                 |                |                |               |               |                |                |               |                |                |                 |               |               | Figure |
|-----------------------------|----------------|-----------------|----------------|----------------|---------------|---------------|----------------|----------------|---------------|----------------|----------------|-----------------|---------------|---------------|--------|
|                             | A              |                 | B              |                | C             |               | D              |                | E             |                | F              | H               | J             |               |        |
|                             | Min.           | Max.            | Min.           | Max.           | Min.          | Max.          | Min.           | Max.           | Min.          | Max.           | TYP.           | TYP.            | TYP.          |               |        |
| RUEF 30V                    |                |                 |                |                |               |               |                |                |               |                |                |                 |               |               |        |
| RUEF500                     | —              | 14.0<br>(0.55)  | —              | 24.1<br>(0.95) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 9.4<br>(0.37) | 10.9<br>(0.43) | —              | 1.19<br>(0.047) | 1.0<br>(0.04) | R13, R15, R16 |        |
| RUEF600                     | —              | 16.5<br>(0.65)  | —              | 24.1<br>(0.95) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 9.4<br>(0.37) | 10.9<br>(0.43) | —              | 1.19<br>(0.047) | 1.0<br>(0.04) | R13, R15, R16 |        |
| RUEF700                     | —              | 19.1<br>(0.75)  | —              | 25.9<br>(1.02) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 9.4<br>(0.37) | 10.9<br>(0.43) | —              | 1.19<br>(0.047) | 1.2<br>(0.05) | R13, R15, R16 |        |
| RUEF800                     | —              | 21.6<br>(0.85)  | —              | 28.4<br>(1.12) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 9.4<br>(0.37) | 10.9<br>(0.43) | —              | 1.19<br>(0.047) | 1.5<br>(0.06) | R13, R15, R16 |        |
| RUEF900                     | —              | 24.1<br>(0.95)  | —              | 29.0<br>(1.14) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 9.4<br>(0.37) | 10.9<br>(0.43) | —              | 1.19<br>(0.047) | 1.5<br>(0.06) | R13, R15, R16 |        |
| RHEF 30V - High Temperature |                |                 |                |                |               |               |                |                |               |                |                |                 |               |               |        |
| RHEF050                     | —              | 7.4<br>(0.29)   | —              | 12.7<br>(0.50) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | —               | —             | —             |        |
| RHEF070                     | —              | 6.86<br>(0.27)  | —              | 10.8<br>(0.43) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05)  | 1.24<br>(0.049) | 1.2<br>(0.05) | R12, R15, R16 |        |
| RHEF100                     | —              | 9.7<br>(0.38)   | —              | 13.6<br>(0.54) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | —              | —               | —             | —             |        |
| RUSBF 16V                   |                |                 |                |                |               |               |                |                |               |                |                |                 |               |               |        |
| RUSBF090                    | —              | 7.4<br>(0.29)   | —              | 12.2<br>(0.48) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | —              | 0.89<br>(0.035) | 0.8<br>(0.03) | R12, R15, R16 |        |
| RUSBF110                    | —              | 7.4<br>(0.29)   | —              | 14.2<br>(0.56) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | —              | 0.89<br>(0.035) | 0.8<br>(0.03) | R12, R15, R16 |        |
| RUSBF135                    | —              | 8.9<br>(0.35)   | —              | 13.5<br>(0.53) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | —              | 0.89<br>(0.035) | 1.0<br>(0.04) | R12, R15, R16 |        |
| RUSBF160                    | —              | 8.9<br>(0.35)   | —              | 15.2<br>(0.60) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | —              | 0.89<br>(0.035) | 1.0<br>(0.04) | R12, R15, R16 |        |
| RUSBF185                    | —              | 10.2<br>(0.40)  | —              | 15.7<br>(0.62) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | —              | 0.89<br>(0.035) | 1.0<br>(0.04) | R12, R15, R16 |        |
| RUSBF250                    | —              | 11.4<br>(0.45)  | —              | 18.3<br>(0.72) | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | —              | 0.89<br>(0.035) | 1.2<br>(0.05) | R12, R15, R16 |        |
| RGEF 16V                    |                |                 |                |                |               |               |                |                |               |                |                |                 |               |               |        |
| RGEF250                     | —              | 8.9<br>(0.35)   | —              | 12.8<br>(0.50) | —             | 3.0<br>(0.12) | 3.18<br>(0.13) | 6.18<br>(0.24) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 1.2<br>(0.05) | R12, R15, R16 |        |
| RGEF300                     | 6.1<br>(0.24)  | 7.1<br>(0.28)   | 6.1<br>(0.24)  | 11.0<br>(0.43) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 1.2<br>(0.05) | R13, R15, R16 |        |
| RGEF400                     | 7.9<br>(0.31)  | 8.9<br>(0.35)   | 7.9<br>(0.31)  | 12.8<br>(0.50) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 1.4<br>(0.06) | R13, R15, R16 |        |
| RGEF500                     | 9.4<br>(0.37)  | 10.4<br>(0.41)  | 9.4<br>(0.37)  | 14.3<br>(0.56) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 1.6<br>(0.06) | R13, R15, R16 |        |
| RGEF600                     | 9.7<br>(0.38)  | 10.7<br>(0.42)  | 12.2<br>(0.48) | 17.1<br>(0.67) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 1.6<br>(0.06) | R13, R15, R16 |        |
| RGEF700                     | 10.2<br>(0.40) | 11.2<br>(0.44)  | 14.7<br>(0.58) | 19.7<br>(0.78) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 1.7<br>(0.07) | R13, R15, R16 |        |
| RGEF800                     | 11.7<br>(0.46) | 12.7<br>(0.50)  | 16.0<br>(0.63) | 20.9<br>(0.82) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 1.8<br>(0.07) | R13, R15, R16 |        |
| RGEF900                     | 13.0<br>(0.51) | 14.0<br>(0.55)  | 16.8<br>(0.66) | 21.7<br>(0.85) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 2.0<br>(0.08) | R13, R15, R16 |        |
| RGEF1000                    | 15.5<br>(0.61) | 16.5<br>(0.65)  | 21.1<br>(0.83) | 25.2<br>(0.99) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.21<br>(0.05) | 1.24<br>(0.049) | 2.0<br>(0.08) | R13, R15, R16 |        |
| RGEF1100                    | 16.5<br>(0.65) | 17.5<br>(0.69)  | 21.1<br>(0.83) | 26.0<br>(1.02) | 2.0<br>(0.08) | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05)  | 1.24<br>(0.049) | 2.4<br>(0.09) | R13, R15, R16 |        |
| RGEF1200                    | 16.4<br>(0.65) | 17.5<br>(0.69)  | 22.6<br>(0.89) | 28.0<br>(1.10) | 2.3<br>(0.09) | 3.5<br>(0.14) | 7.6<br>(0.30)  | —              | 9.4<br>(0.37) | 10.9<br>(0.43) | 1.4<br>(0.06)  | 1.45<br>(0.057) | 1.5<br>(0.06) | R13, R15, R16 |        |
| RGEF1400                    | 22.4<br>(0.88) | 23.5<br>(0.925) | 22.6<br>(0.89) | 27.9<br>(1.10) | 2.3<br>(0.09) | 3.5<br>(0.14) | 7.6<br>(0.30)  | —              | 9.4<br>(0.37) | 10.9<br>(0.43) | 1.4<br>(0.06)  | 1.45<br>(0.057) | 1.9<br>(0.08) | R13, R15, R16 |        |
| RHEF 16V - High Temperature |                |                 |                |                |               |               |                |                |               |                |                |                 |               |               |        |
| RHEF200                     | —              | 9.4<br>(0.37)   | 14.4<br>(0.57) | —              | —             | 3.0<br>(0.12) | 7.6<br>(0.30)  | —              | 4.3<br>(0.17) | 5.8<br>(0.23)  | —              | —               | —             | R10, R15, R16 |        |



RoHS compliant, ELV compliant

Table R4 - Dimensions for Radial-led Devices in Millimeters (Inches)

... Cont'd

| Part Number                 | Dimension |                 |      |                |      |               |               |      |               |                |               |                 |                |                  | Figure |
|-----------------------------|-----------|-----------------|------|----------------|------|---------------|---------------|------|---------------|----------------|---------------|-----------------|----------------|------------------|--------|
|                             | A         |                 | B    |                | C    |               | D             |      | E             |                | F             | H               | J              |                  |        |
|                             | Min.      | Max.            | Min. | Max.           | Min. | Max.          | Min.          | Max. | Min.          | Max.           | TYP.          | TYP.            | TYP.           |                  |        |
| RHEF 16V - High Temperature |           |                 |      |                |      |               |               |      |               |                |               |                 |                |                  |        |
| New RHEF300                 | —         | 8.8<br>(0.35)   | —    | 13.8<br>(0.55) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | —               | —              | R14, R15<br>R16  |        |
| RHEF400                     | —         | 10.0<br>(0.39)  | —    | 15.0<br>(0.59) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.6<br>(0.06)  | R14, R15,<br>R16 |        |
| RHEF450                     | —         | 10.4<br>(0.41)  | —    | 15.6<br>(0.61) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.6<br>(0.06)  | R14, R15,<br>R16 |        |
| New RHEF550                 | —         | 11.2<br>(0.44)  | —    | 18.9<br>(0.74) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | —               | —              | R14, R15         |        |
| RHEF600                     | —         | 11.2<br>(0.44)  | —    | 21.0<br>(0.83) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.7<br>(0.067) | R14, R15,<br>R16 |        |
| RHEF650                     | —         | 12.7<br>(0.50)  | —    | 22.2<br>(0.88) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.8<br>(0.07)  | R14, R15,<br>R16 |        |
| New RHEF700                 | —         | 14.0<br>(0.55)  | —    | 21.9<br>(0.86) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | —               | —              | R14, R15         |        |
| RHEF750                     | —         | 14.0<br>(0.55)  | —    | 23.5<br>(0.93) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | 1.24<br>(0.049) | 2.0<br>(0.08)  | R14, R15,<br>R16 |        |
| New RHEF800                 | —         | 16.5<br>(0.65)  | —    | 22.5<br>(0.88) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | 1.2<br>(0.05) | —               | —              | R14, R15<br>R16  |        |
| RHEF900                     | —         | 16.5<br>(0.65)  | —    | 25.7<br>(1.01) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.8<br>(0.23)  | —             | —               | —              | R14, R15<br>R16  |        |
| RHEF1000                    | —         | 17.5<br>(0.69)  | —    | 26.5<br>(1.04) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 9.4<br>(0.37) | 10.9<br>(0.43) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.5<br>(0.06)  | R14, R15,<br>R16 |        |
| New RHEF1100                | —         | 21.0<br>(0.83)  | —    | 26.1<br>(1.03) | —    | 3.0<br>(0.12) | 7.6<br>(0.30) | —    | 9.4<br>(0.37) | 10.9<br>(0.43) | 1.2<br>(0.05) | —               | —              | R14, R15<br>R16  |        |
| RHEF1300                    | —         | 23.5<br>(0.925) | —    | 28.7<br>(1.13) | —    | 3.6<br>(0.14) | 7.6<br>(0.30) | —    | 9.4<br>(0.37) | 10.9<br>(0.43) | 1.4<br>(0.06) | 1.45<br>(0.057) | 1.9<br>(0.084) | R14, R15,<br>R16 |        |
| New RHEF1400                | —         | 23.5<br>(0.93)  | —    | 28.6<br>(1.13) | —    | 3.6<br>(0.14) | 7.6<br>(0.30) | —    | 9.4<br>(0.37) | 10.9<br>(0.43) | 1.4<br>(0.06) | —               | —              | R14, R15<br>R16  |        |
| RHEF1500                    | —         | 23.5<br>(0.925) | —    | 28.7<br>(1.13) | —    | 3.6<br>(0.14) | 7.6<br>(0.30) | —    | 9.4<br>(0.37) | 10.9<br>(0.43) | 1.4<br>(0.06) | 1.45<br>(0.057) | 1.9<br>(0.084) | R14, R15,<br>R16 |        |
| RUSBF 6V                    |           |                 |      |                |      |               |               |      |               |                |               |                 |                |                  |        |
| RUSBF075                    | —         | 6.9<br>(0.27)   | —    | 11.4<br>(0.45) | —    | 3.1<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.9<br>(0.23)  | —             | 0.91<br>(0.036) | 1.0<br>(0.04)  | R10, R15,<br>R16 |        |
| RUSBF120                    | —         | 6.9<br>(0.27)   | —    | 11.7<br>(0.46) | —    | 3.1<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.9<br>(0.23)  | —             | 0.91<br>(0.036) | 1.0<br>(0.04)  | R10, R15,<br>R16 |        |
| RUSBF155                    | —         | 6.9<br>(0.27)   | —    | 11.7<br>(0.46) | —    | 3.1<br>(0.12) | 7.6<br>(0.30) | —    | 4.3<br>(0.17) | 5.9<br>(0.23)  | —             | 0.91<br>(0.036) | 1.0<br>(0.04)  | R10, R15,<br>R16 |        |

Figures R17-R23 - Typical Time-to-trip curves at 20°C for Radial-led Devices

## LVR/LVRL

A = LVR005

H = LVR055

B = LVR008

I = LVRL075

C = LVR012

J = LVRL100

D = LVR016

K = LVRL125

E = LVR025

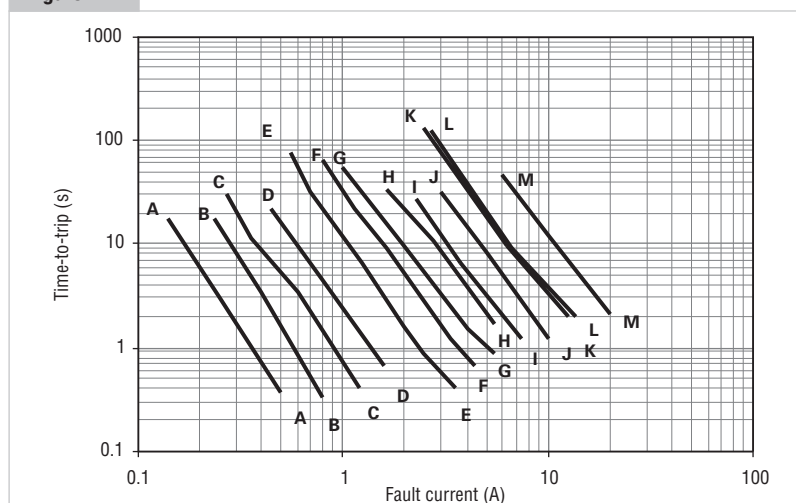
L = LVRL135

F = LVR033

M = LVRL200

G = LVR040

Figure R17



**BBRF**

A = BBRF550

B = BBRF750

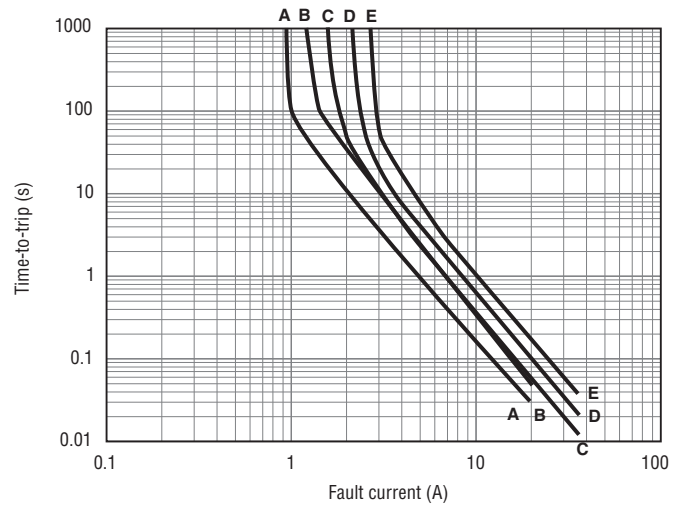
**RTEF**

C = RTEF120

D = RTEF135

E = RTEF190

**Figure R18**



**RXEF**

A = RXEF005

J = RXEF075

B = RXEF010

K = RXEF090

C = RXEF017

L = RXEF110

D = RXEF020

M = RXEF135

E = RXEF025

N = RXEF160

F = RXEF030

O = RXEF185

G = RXEF040

P = RXEF250

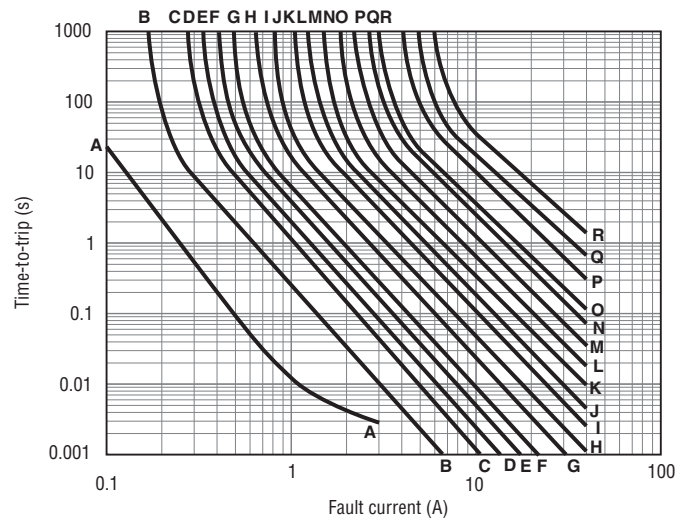
H = RXEF050

Q = RXEF300

I = RXEF065

R = RXEF375

**Figure R19**



**RUEF**

A = RUEF090

H = RUEF400

B = RUEF110

I = RUEF500

C = RUEF135

J = RUEF600

D = RUEF160

K = RUEF700

E = RUEF185

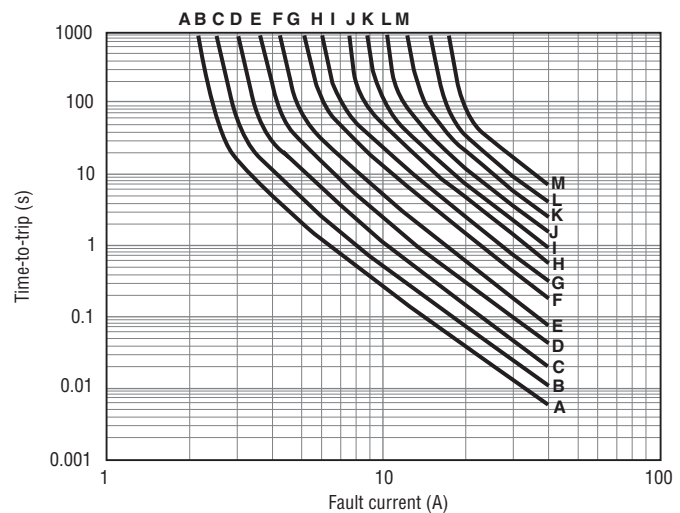
L = RUEF800

F = RUEF250

M = RUEF900

G = RUEF300

**Figure R20**



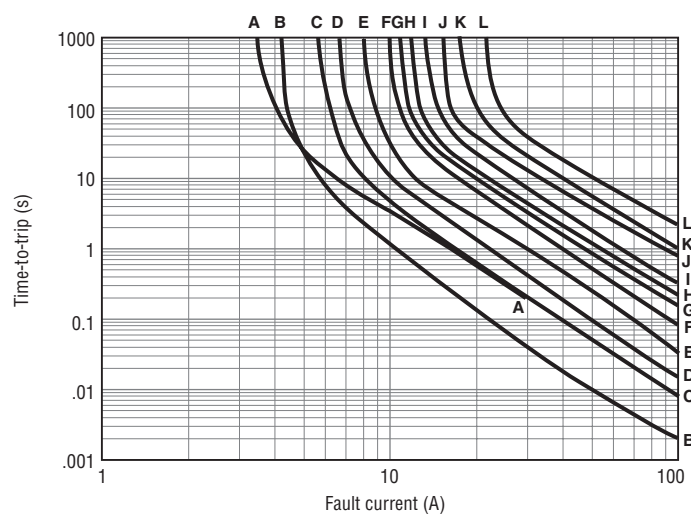
# Figures R17-R23 - Typical Time-to-trip curves at 20°C for Radial-leaded Devices

... Cont'd

## RGEF (data at 25°C)

|             |              |
|-------------|--------------|
| A = RGEF250 | H = RGEF900  |
| B = RGEF300 | I = RGEF1000 |
| C = RGEF400 | J = RGEF1100 |
| D = RGEF500 | K = RGEF1200 |
| E = RGEF600 | L = RGEF1400 |
| F = RGEF700 |              |
| G = RGEF800 |              |

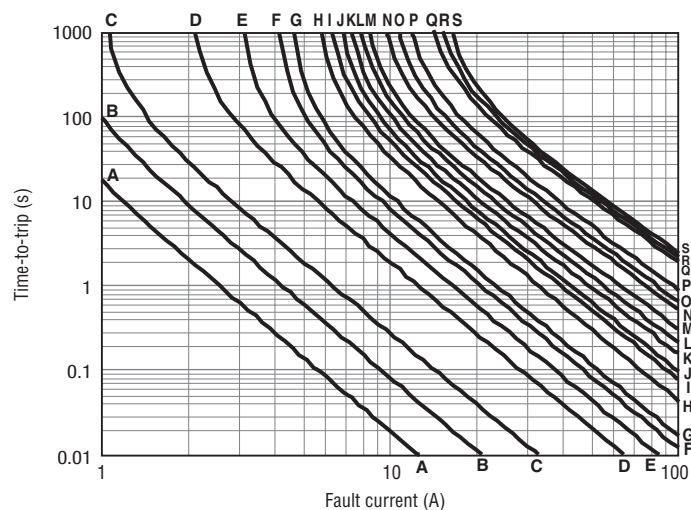
Figure R21



## RHEF (data at 25°C)

|             |              |
|-------------|--------------|
| A = RHEF050 | K = RHEF700  |
| B = RHEF070 | L = RHEF750  |
| C = RHEF100 | M = RHEF800  |
| D = RHEF200 | N = RHEF900  |
| E = RHEF300 | O = RHEF1000 |
| F = RHEF400 | P = RHEF1100 |
| G = RHEF450 | Q = RHEF1300 |
| H = RHEF550 | R = RHEF1400 |
| I = RHEF600 | S = RHEF1500 |
| J = RHEF650 |              |

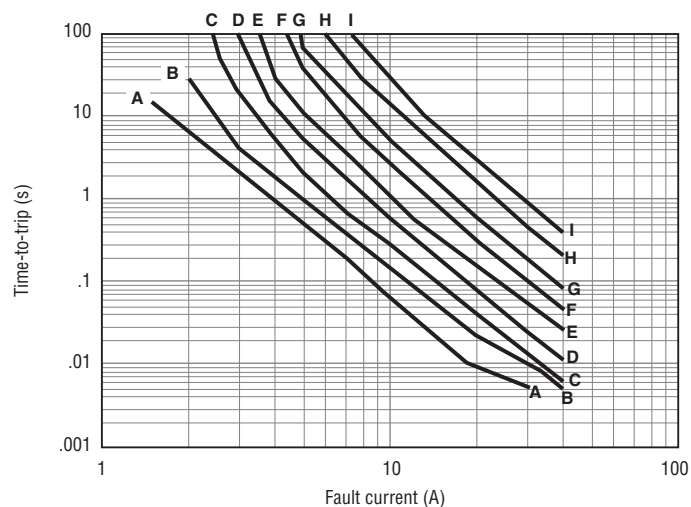
Figure R22



## RUSBF

|              |              |
|--------------|--------------|
| A = RUSBF075 | F = RUSBF155 |
| B = RUSBF090 | G = RUSBF160 |
| C = RUSBF110 | H = RUSBF185 |
| D = RUSBF120 | I = RUSBF250 |
| E = RUSBF135 |              |

Figure R23



**Table R5 - Physical Characteristics and Environmental Specifications for Radial-leaded Devices**

**LVR/LVRL  
Physical Characteristics**

|                                                                 |                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lead material                                                   | LVR005-016: Tin-plated copper, 0.205mm <sup>2</sup> (24AWG), Ø0.51mm (0.020in.)<br>LVR025-040: Tin-plated copper, 0.32mm <sup>2</sup> (22AWG), Ø0.64mm (0.025in.)<br>LVR055: Tin-plated copper, 0.52mm <sup>2</sup> (20AWG), Ø0.81mm (0.032in.)<br>LVRL: Tin-plated copper, 0.52mm <sup>2</sup> (20AWG), Ø0.81mm (0.032in.) |
| Soldering characteristics                                       | Solderability pre ANSI/J-STD-002 Category 3                                                                                                                                                                                                                                                                                 |
| Solder heat withstand                                           | per IEC-STD 68-2-20, Test Tb, Method 1a, condition b, can withstand 10 seconds at 260°C ±5°C                                                                                                                                                                                                                                |
| Devices are not designed to be placed through a reflow process. |                                                                                                                                                                                                                                                                                                                             |

**LVR/LVRL  
Environmental Specifications**

| Test               | Conditions               | Resistance Change |
|--------------------|--------------------------|-------------------|
| Passive aging      | 70°C, 1000 hours         | ±5%               |
|                    | 85°C, 1000 hours         | ±5%               |
| Humidity aging     | 85°C, 85%RH, 1000 hours  | ±5%               |
| Thermal Shock      | 85°C, -40°C (10 times)   | ±5%               |
| Solvent resistance | MIL-STD-202, Method 215F | No change         |

**BBRF  
Physical Characteristics**

|                                                                 |                                                                                              |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Lead material                                                   | Tin-plated copper, 0.52mm <sup>2</sup> (20AWG), Ø0.81mm (0.032in.)                           |
| Soldering characteristics                                       | Solderability pre ANSI/J-STD-002 Category 3                                                  |
| Solder heat withstand                                           | per IEC-STD 68-2-20, Test Tb, Method 1a, condition b, can withstand 10 seconds at 260°C ±5°C |
| Insulating material                                             | Cured, flame-retardant epoxy polymer; meets UL 94V-0                                         |
| Devices are not designed to be placed through a reflow process. |                                                                                              |

**BBRF  
Environmental Specifications**

| Test               | Conditions               | Resistance Change |
|--------------------|--------------------------|-------------------|
| Passive aging      | 70°C, 1000 hours         | ±5%               |
|                    | 85°C, 1000 hours         | ±5%               |
| Humidity aging     | 85°C, 85%RH, 1000 hours  | ±5%               |
| Thermal Shock      | 85°C, -40°C (10 times)   | ±5%               |
| Solvent resistance | MIL-STD-202, Method 215F | No change         |

**RXEF  
Physical Characteristics**

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lead material                                                   | RXEF005: Tin-plated nickel-copper alloy, 0.128mm <sup>2</sup> (26AWG), Ø0.40mm (0.016in.)<br>RXEF010: Tin-plated nickel-copper alloy, 0.205mm <sup>2</sup> (24AWG), Ø0.51mm (0.020in.)<br>RXEF017 to 040: Tin-plated copper-clad steel, 0.205mm <sup>2</sup> (24AWG), Ø0.51mm (0.020in.)<br>RXEF050 to 090: Tin-plated copper, 0.205mm <sup>2</sup> (24AWG), Ø0.51mm (0.020in.)<br>RXEF110 to 375: Tin-plated copper, 0.52mm <sup>2</sup> (20AWG), Ø0.81mm (0.032in.) |
| Soldering characteristics                                       | Solderability pre ANSI/J-STD-002 Category 3<br>RXEF005, RXEF010 meet ANSI/J-STD-002 Category 1                                                                                                                                                                                                                                                                                                                                                                        |
| Solder heat withstand                                           | RXEF017- RXEF025: per IEC-STD 68-2-20, Test Tb, Method 1a, condition a; can withstand 5 seconds at 260°C ±5°C<br>All other sizes: per IEC-STD 68-2-20, Test Tb, Method 1a, condition b; can withstand 5 seconds at 260°C ±5°C                                                                                                                                                                                                                                         |
| Insulating material                                             | Cured, flame-retardant epoxy polymer; meets UL 94V-0                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Devices are not designed to be placed through a reflow process. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**RXEF  
Environmental Specifications**

| Test               | Conditions               | Resistance Change |
|--------------------|--------------------------|-------------------|
| Passive aging      | -40°C, 1000 hours        | ±5%               |
|                    | 85°C, 1000 hours         | ±5%               |
| Humidity aging     | 85°C, 85%RH, 1000 hours  | ±10%              |
| Thermal Shock      | 85°C, -40°C (10 times)   | ±10%              |
| Solvent resistance | MIL-STD-202, Method 215F | No change         |

Table R5 - Physical Characteristics and Environmental Specifications for Radial-leaded Devices

... Cont'd

**RTEF  
Physical Characteristics**

|                           |                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------|
| Lead material             | Tin-plated copper-clad steel, 0.205mm <sup>2</sup> (24AWG), Ø0.40mm (0.016in.)               |
| Soldering characteristics | Solderability pre ANSI/J-STD-002 Category 3                                                  |
| Solder heat withstand     | per IEC-STD 68-2-20, Test Tb, Method 1a, condition b; can withstand 10 seconds at 260°C ±5°C |
| Insulating material       | Cured, flame-retardant epoxy polymer; meets UL 94V-0                                         |

**RTEF  
Environmental Specifications**

| Test               | Conditions               | Resistance Change |
|--------------------|--------------------------|-------------------|
| Passive aging      | 70°C, 1000 hours         | ±5%               |
|                    | 85°C, 1000 hours         | ±5%               |
| Humidity aging     | 85°C, 85%RH, 1000 hours  | ±5%               |
| Thermal Shock      | 85°C, -40°C (10 times)   | ±5%               |
| Solvent resistance | MIL-STD-202, Method 215F | No change         |

**RUEF  
Physical Characteristics**

|                           |                                                                                                                                                                          |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lead material             | RUEF090 to RUEF250: Tin-plated copper-clad steel, 0.205mm <sup>2</sup> (24AWG)<br>RUEF300 to RUEF900: Tin-plated copper, 0.52mm <sup>2</sup> (20AWG), Ø0.81mm (0.032in.) |
| Soldering characteristics | Solderability pre ANSI/J-STD-002 Category 3                                                                                                                              |
| Solder heat withstand     | per IEC-STD 68-2-20, Test Tb, Method 1a, condition b, can withstand 10 seconds at 260°C ±5°C                                                                             |
| Insulating material       | Cured, flame-retardant epoxy polymer; meets UL 94V-0                                                                                                                     |

Devices are not designed to be placed through a reflow process.

**RUEF  
Environmental Specifications**

| Test               | Conditions               | Resistance Change |
|--------------------|--------------------------|-------------------|
| Passive aging      | 70°C, 1000 hours         | ±5%               |
|                    | 85°C, 1000 hours         | ±5%               |
| Humidity aging     | 85°C, 85%RH, 1000 hours  | ±5%               |
| Thermal Shock      | 85°C, -40°C (10times)    | ±5%               |
| Solvent resistance | MIL-STD-202, Method 215F | No change         |

**RUSBF  
Physical Characteristics**

|                           |                                                                                                                                                                                                                   |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lead material             | RUSBF075: Tin-plated nickel-copper alloy, 0.205mm <sup>2</sup> (24AWG), Ø0.51mm/0.020in.<br>RUSBF090 to RUSBF250: Tin-plated copper clad-steel, 0.205mm <sup>2</sup> (24AWG), Ø0.51mm/0.020in.                    |
| Soldering characteristics | Solderability pre ANSI/J-STD-002 Category 3 except<br>RUSBF075 meet ANSI/J-STD-002 Category 1                                                                                                                     |
| Solder heat withstand     | RUSBF120: per IEC-STD 68-2-20, Test Tb, Method 1a, condition a; can withstand 5 seconds at 260°C ±5°C<br>All others: per IEC-STD 68-2-20, Test Tb, Method 1a, condition b; can withstand 10 seconds at 260°C ±5°C |
| Insulating material       | Cured, flame-retardant epoxy polymer; meets UL 94V-0                                                                                                                                                              |

Devices are not designed to be placed through a reflow process.

**RUSBF  
Environmental Specifications**

| Test               | Conditions               | Resistance Change |
|--------------------|--------------------------|-------------------|
| Passive aging      | 70°C, 1000 hours         | ±5%               |
|                    | 85°C, 1000 hours         | ±5%               |
| Humidity aging     | 85°C, 85%RH, 1000 hours  | ±5%               |
| Thermal Shock      | 85°C, -40°C (10 times)   | ±5%               |
| Solvent resistance | MIL-STD-202, Method 215F | No change         |

**RGEF  
Physical Characteristics**

|                           |                                                                                                                                                                                                                                |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lead material             | RGEF300 to RGEF1100: Tin-plated copper, 0.52mm <sup>2</sup> (20AWG), Ø0.81mm/0.032in.<br>RGEF1200 to RGEF1400: Tin-plated copper, 0.82mm <sup>2</sup> (18AWG), Ø1.0mm/0.04in.                                                  |
| Soldering characteristics | Solderability pre ANSI/J-STD-002 Category 3                                                                                                                                                                                    |
| Solder heat withstand     | RGEF300K and RGEF400: per IEC 68-2-20, Test Tb, Method 1a, condition a; can withstand 5 seconds at 260°C ±5°C<br>RGEF500 to RGEF1400: per IEC 68-2-20, Test Tb, Method 1a, condition b; can withstand 10 seconds at 260°C ±5°C |
| Insulating material       | Cured, flame-retardant epoxy polymer; meets UL 94V-0                                                                                                                                                                           |

Devices are not designed to be placed through a reflow process.

Table R5 - Physical Characteristics and Environmental Specifications for Radial-leaded Devices

... Cont'd

**RGEF  
Environmental Specifications**

| Test               | Conditions               | Resistance Change |
|--------------------|--------------------------|-------------------|
| Passive aging      | -40°C, 1000 hours        | ±5%               |
|                    | 85°C, 1000 hours         | ±5%               |
| Humidity aging     | 85°C, 85%RH, 1000 hours  | ±5%               |
| Thermal Shock      | 85°C, -40°C (10 times)   | ±5%               |
| Solvent resistance | MIL-STD-202, Method 215F | No change         |

**RHEF  
Physical Characteristics**

|                           |                                                                                                                                                                                                                                                                                   |  |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Lead material             | RHEF050 to RHEF200: Tin-plated copper clad steel, 0.205mm <sup>2</sup> (24AWG), ø0.51mm/0.020in.<br>RHEF300 to RHEF1100: Tin-plated copper, 0.52mm <sup>2</sup> (20AWG), ø0.81mm/0.032in.<br>RHEF1300 to RHEF1500: Tin-plated copper, 0.82mm <sup>2</sup> (18AWG), ø1.0mm/0.04in. |  |
| Soldering characteristics | Solderability pre ANSI/J-STD-002 Category 3                                                                                                                                                                                                                                       |  |
| Solder heat withstand     | per IEC 68-2-20, Test Tb, Method 1a, condition b; can withstand 10 seconds at 260°C ±5°C                                                                                                                                                                                          |  |
| Insulating material       | Cured, flame-retardant epoxy polymer; meets UL 94V-0                                                                                                                                                                                                                              |  |

Devices are not designed to be placed through a reflow process.

**RHEF  
Environmental Specifications**

| Test               | Conditions               | Resistance Change |
|--------------------|--------------------------|-------------------|
| Passive aging      | 70°C, 1000 hours         | ±5%               |
|                    | 85°C, 1000 hours         | ±5%               |
| Humidity aging     | 85°C, 85%RH, 1000 hours  | ±5%               |
| Thermal Shock      | 125°C, -40°C (10 times)  | ±5%               |
| Solvent resistance | MIL-STD-202, Method 215F | No change         |

Devices are not designed to be placed through a reflow process.

**Notes:** Storage conditions: 40°Cmax., 70% RH max.; devices should remain in original sealed bags prior to use. Devices may not meet specified values if these storage conditions are exceeded.

For the TR devices series, see the Telecommunications and Networking section.

## Agency Recognitions for Radial-leaded Devices

|     |                                                            |
|-----|------------------------------------------------------------|
| UL  | File # E74889                                              |
| CSA | File # CA78165C                                            |
| TÜV | Certificate number available on request (per IEC 60730-1). |

Table R6 - Packaging and Marking Information for Radial-leaded Devices

| Part Number                                                                                                                         | Bag Quantity | Tape & Reel Quantity | Ammo Pack Quantity | Standard Pack Quantity | Part Marking | Agency Recognition |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------|--------------------|------------------------|--------------|--------------------|
|  LVR 240V <sub>AC</sub> /LVRL 120V <sub>AC</sub> |              |                      |                    |                        |              |                    |
| LVR005K                                                                                                                             | 500          | —                    | —                  | 10,000                 | L005         | UL, CSA, TÜV       |
| LVR005K-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L005         | UL, CSA, TÜV       |
| LVR005S                                                                                                                             | 500          | —                    | —                  | 10,000                 | L005         | UL, CSA, TÜV       |
| LVR005S-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L005         | UL, CSA, TÜV       |
| LVR008K                                                                                                                             | 500          | —                    | —                  | 10,000                 | L008         | UL, CSA, TÜV       |
| LVR008K-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L008         | UL, CSA, TÜV       |
| LVR008S                                                                                                                             | 500          | —                    | —                  | 10,000                 | L008         | UL, CSA, TÜV       |
| LVR008S-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L008         | UL, CSA, TÜV       |
| LVR012K                                                                                                                             | 500          | —                    | —                  | 10,000                 | L012         | UL, CSA, TÜV       |
| LVR012K-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L012         | UL, CSA, TÜV       |
| LVR012S                                                                                                                             | 500          | —                    | —                  | 10,000                 | L012         | UL, CSA, TÜV       |
| LVR012S-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L012         | UL, CSA, TÜV       |
| LVR016K                                                                                                                             | 500          | —                    | —                  | 10,000                 | L016         | UL, CSA, TÜV       |
| LVR016K-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L016         | UL, CSA, TÜV       |
| LVR016S                                                                                                                             | 500          | —                    | —                  | 10,000                 | L016         | UL, CSA, TÜV       |
| LVR016S-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L016         | UL, CSA, TÜV       |
| LVR025K                                                                                                                             | 500          | —                    | —                  | 10,000                 | L025         | UL, CSA, TÜV       |
| LVR025K-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L025         | UL, CSA, TÜV       |
| LVR025S                                                                                                                             | 500          | —                    | —                  | 10,000                 | L025         | UL, CSA, TÜV       |
| LVR025S-2                                                                                                                           | —            | 2,000                | —                  | 10,000                 | L025         | UL, CSA, TÜV       |

Table R6 - Packaging and Marking Information for Radial-leaded Devices

... Cont'd

|     | Part Number                                           | Bag Quantity | Tape & Reel Quantity | Ammo Pack Quantity | Standard Pack Quantity | Part Marking | Agency Recognition |
|-----|-------------------------------------------------------|--------------|----------------------|--------------------|------------------------|--------------|--------------------|
|     | <b>■ LVR 240V<sub>AC</sub>/LVRL 120V<sub>AC</sub></b> |              |                      |                    |                        |              |                    |
|     | LVR033S                                               | 500          | —                    | —                  | 10,000                 | L033         | UL, CSA, TÜV       |
|     | LVR033S-2                                             | —            | 2,000                | —                  | 10,000                 | L033         | UL, CSA, TÜV       |
|     | LVR033K                                               | 500          | —                    | —                  | 10,000                 | L033         | UL, CSA, TÜV       |
|     | LVR033K-2                                             | —            | 2,000                | —                  | 10,000                 | L033         | UL, CSA, TÜV       |
|     | LVR040S                                               | 500          | —                    | —                  | 10,000                 | L040         | UL, CSA, TÜV       |
|     | LVR040S-2                                             | —            | 2,000                | —                  | 10,000                 | L040         | UL, CSA, TÜV       |
|     | LVR040K                                               | 500          | —                    | —                  | 10,000                 | L040         | UL, CSA, TÜV       |
|     | LVR040K-2                                             | —            | 2,000                | —                  | 10,000                 | L040         | UL, CSA, TÜV       |
|     | LVR055K                                               | 500          | —                    | —                  | 10,000                 | L055         | UL, CSA, TÜV       |
|     | LVR055S                                               | 500          | —                    | —                  | 10,000                 | L055         | UL, CSA, TÜV       |
| New | LVRL075S                                              | 500          | —                    | —                  | 10,000                 | L075         | UL, CSA, TÜV       |
| New | LVRL100S                                              | 500          | —                    | —                  | 10,000                 | L100         | UL, CSA, TÜV       |
| New | LVRL125S                                              | 500          | —                    | —                  | 10,000                 | L125         | UL, CSA, TÜV       |
| New | LVRL135S                                              | 500          | —                    | —                  | 10,000                 | L135         | UL, CSA, TÜV       |
| New | LVRL200S                                              | 250          | —                    | —                  | 5,000                  | L200         | UL, CSA, TÜV       |
|     | <b>■ BBRF 99V<sub>AC</sub></b>                        |              |                      |                    |                        |              |                    |
|     | BBRF550                                               | 500          | —                    | —                  | 10,000                 | BF550        | UL, CSA            |
|     | BBRF550-2                                             | —            | 1,500                | —                  | 7,500                  | BF550        | UL, CSA            |
|     | BBRF750                                               | 500          | —                    | —                  | 10,000                 | BF750        | UL, CSA            |
|     | BBRF750-2                                             | —            | 1,500                | —                  | 7,500                  | BF750        | UL, CSA            |
|     | <b>■ RXEF 60V</b>                                     |              |                      |                    |                        |              |                    |
|     | RXEF005                                               | 500          | —                    | —                  | 10,000                 | —            | UL, CSA, TÜV       |
|     | RXEF005-2                                             | —            | 3,000                | —                  | 15,000                 | —            | UL, CSA, TÜV       |
|     | RXEF005-AP                                            | —            | —                    | 2,000              | 10,000                 | —            | UL, CSA, TÜV       |
|     | RXEF010                                               | 500          | —                    | —                  | 10,000                 | XF010        | UL, CSA, TÜV       |
|     | RXEF010-2                                             | —            | 3,000                | —                  | 15,000                 | XF010        | UL, CSA, TÜV       |
|     | RXEF010-AP                                            | —            | —                    | 2,000              | 10,000                 | XF010        | UL, CSA, TÜV       |
|     | RXEF017                                               | 500          | —                    | —                  | 10,000                 | XF017        | UL, CSA, TÜV       |
|     | RXEF017-2                                             | —            | 2,500                | —                  | 12,500                 | XF017        | UL, CSA, TÜV       |
|     | RXEF017-AP                                            | —            | —                    | 2,000              | 10,000                 | XF017        | UL, CSA, TÜV       |
|     | <b>■ RXEF 72V</b>                                     |              |                      |                    |                        |              |                    |
|     | RXEF020                                               | 500          | —                    | —                  | 10,000                 | XF020        | UL, CSA, TÜV       |
|     | RXEF020-2                                             | —            | 3,000                | —                  | 15,000                 | XF020        | UL, CSA, TÜV       |
|     | RXEF020-AP                                            | —            | —                    | 2,000              | 10,000                 | XF020        | UL, CSA, TÜV       |
|     | RXEF025                                               | 500          | —                    | —                  | 10,000                 | XF025        | UL, CSA, TÜV       |
|     | RXEF025-2                                             | —            | 3,000                | —                  | 15,000                 | XF025        | UL, CSA, TÜV       |
|     | RXEF025-AP                                            | —            | —                    | 2,000              | 10,000                 | XF025        | UL, CSA, TÜV       |
|     | RXEF030                                               | 500          | —                    | —                  | 10,000                 | XF030        | UL, CSA, TÜV       |
|     | RXEF030-2                                             | —            | 3,000                | —                  | 15,000                 | XF030        | UL, CSA, TÜV       |
|     | RXEF030-AP                                            | —            | —                    | 2,000              | 10,000                 | XF030        | UL, CSA, TÜV       |
|     | RXEF040                                               | 500          | —                    | —                  | 10,000                 | XF040        | UL, CSA, TÜV       |
|     | RXEF040-2                                             | —            | 3,000                | —                  | 15,000                 | XF040        | UL, CSA, TÜV       |
|     | RXEF040-AP                                            | —            | —                    | 2,000              | 10,000                 | XF040        | UL, CSA, TÜV       |
|     | RXEF050                                               | 500          | —                    | —                  | 10,000                 | XF050        | UL, CSA, TÜV       |
|     | RXEF050-2                                             | —            | 3,000                | —                  | 15,000                 | XF050        | UL, CSA, TÜV       |
|     | RXEF050-AP                                            | —            | —                    | 2,000              | 10,000                 | XF050        | UL, CSA, TÜV       |
|     | RXEF065                                               | 500          | —                    | —                  | 10,000                 | XF065        | UL, CSA, TÜV       |
|     | RXEF065-2                                             | —            | 3,000                | —                  | 15,000                 | XF065        | UL, CSA, TÜV       |
|     | RXEF065-AP                                            | —            | —                    | 2,000              | 10,000                 | XF065        | UL, CSA, TÜV       |
|     | RXEF075                                               | 500          | —                    | —                  | 10,000                 | XF075        | UL, CSA, TÜV       |
|     | RXEF075-2                                             | —            | 3,000                | —                  | 15,000                 | XF075        | UL, CSA, TÜV       |

Table R6 - Packaging and Marking Information for Radial-leaded Devices

... Cont'd

| Part Number     | Bag Quantity | Tape & Reel Quantity | Ammo Pack Quantity | Standard Pack Quantity | Part Marking | Agency Recognition |
|-----------------|--------------|----------------------|--------------------|------------------------|--------------|--------------------|
| <b>RXEF 72V</b> |              |                      |                    |                        |              |                    |
| RXEF075-AP      | —            | —                    | 2,000              | 10,000                 | XF075        | UL, CSA, TÜV       |
| RXEF090         | 500          | —                    | —                  | 10,000                 | XF090        | UL, CSA, TÜV       |
| RXEF090-2       | —            | 3,000                | —                  | 15,000                 | XF090        | UL, CSA, TÜV       |
| RXEF090-AP      | —            | —                    | 2,000              | 10,000                 | XF090        | UL, CSA, TÜV       |
| RXEF110         | 500          | —                    | —                  | 10,000                 | XF110        | UL, CSA, TÜV       |
| RXEF110-2       | —            | 1,500                | —                  | 7,500                  | XF110        | UL, CSA, TÜV       |
| RXEF110-AP      | —            | —                    | 1,000              | 5,000                  | XF110        | UL, CSA, TÜV       |
| RXEF135         | 500          | —                    | —                  | 10,000                 | XF135        | UL, CSA, TÜV       |
| RXEF135-2       | —            | 1,500                | —                  | 7,500                  | XF135        | UL, CSA, TÜV       |
| RXEF135-AP      | —            | —                    | 1,000              | 5,000                  | XF135        | UL, CSA, TÜV       |
| RXEF160         | 500          | —                    | —                  | 10,000                 | XF160        | UL, CSA, TÜV       |
| RXEF160-2       | —            | 1,500                | —                  | 7,500                  | XF160        | UL, CSA, TÜV       |
| RXEF160-AP      | —            | —                    | 1,000              | 5,000                  | XF160        | UL, CSA, TÜV       |
| RXEF185         | 500          | —                    | —                  | 10,000                 | XF185        | UL, CSA, TÜV       |
| RXEF185-2       | —            | 1,500                | —                  | 7,500                  | XF185        | UL, CSA, TÜV       |
| RXEF185-AP      | —            | —                    | 1,000              | 5,000                  | XF185        | UL, CSA, TÜV       |
| RXEF250         | 250          | —                    | —                  | 5,000                  | XF250        | UL, CSA, TÜV       |
| RXEF250-2       | —            | 1,000                | —                  | 5,000                  | XF250        | UL, CSA, TÜV       |
| RXEF250-AP      | —            | —                    | 1,000              | 5,000                  | XF250        | UL, CSA, TÜV       |
| RXEF300         | 250          | —                    | —                  | 5,000                  | XF300        | UL, CSA, TÜV       |
| RXEF300-2       | —            | 1,000                | —                  | 5,000                  | XF300        | UL, CSA, TÜV       |
| RXEF300-AP      | —            | —                    | 1,000              | 5,000                  | XF300        | UL, CSA, TÜV       |
| RXEF375         | 250          | —                    | —                  | 5,000                  | XF375        | UL, CSA, TÜV       |
| <b>RTEF 33V</b> |              |                      |                    |                        |              |                    |
| RTEF120         | 500          | —                    | —                  | 10,000                 | TF120        | UL, CSA, TÜV       |
| RTEF120-2       | —            | 3,000                | —                  | 15,000                 | TF120        | UL, CSA, TÜV       |
| RTEF120-AP      | —            | —                    | 2,000              | 10,000                 | TF120        | UL, CSA, TÜV       |
| RTEF135         | 500          | —                    | —                  | 10,000                 | TF135        | UL, CSA, TÜV       |
| RTEF135-2       | —            | 3,000                | —                  | 15,000                 | TF135        | UL, CSA, TÜV       |
| RTEF135-AP      | —            | —                    | 2,000              | 10,000                 | TF135        | UL, CSA, TÜV       |
| RTEF190         | 500          | —                    | —                  | 10,000                 | TF190        | UL, CSA, TÜV       |
| RTEF190-2       | —            | 3,000                | —                  | 15,000                 | TF190        | UL, CSA, TÜV       |
| RTEF190-AP      | —            | —                    | 2,000              | 10,000                 | TF190        | UL, CSA, TÜV       |
| <b>RUEF 30V</b> |              |                      |                    |                        |              |                    |
| RUEF090         | 500          | —                    | —                  | 10,000                 | UF090        | UL, CSA, TÜV, CQC  |
| RUEF090-2       | —            | 3,000                | —                  | 15,000                 | UF090        | UL, CSA, TÜV, CQC  |
| RUEF090-AP      | —            | —                    | 2,000              | 10,000                 | UF090        | UL, CSA, TÜV, CQC  |
| RUEF110         | 500          | —                    | —                  | 10,000                 | UF110        | UL, CSA, TÜV, CQC  |
| RUEF110-2       | —            | 3,000                | —                  | 15,000                 | UF110        | UL, CSA, TÜV, CQC  |
| RUEF110-AP      | —            | —                    | 2,000              | 10,000                 | UF110        | UL, CSA, TÜV, CQC  |
| RUEF135         | 500          | —                    | —                  | 10,000                 | UF135        | UL, CSA, TÜV, CQC  |
| RUEF135-2       | —            | 3,000                | —                  | 15,000                 | UF135        | UL, CSA, TÜV, CQC  |
| RUEF135-AP      | —            | —                    | 2,000              | 10,000                 | UF135        | UL, CSA, TÜV, CQC  |
| RUEF160         | 500          | —                    | —                  | 10,000                 | UF160        | UL, CSA, TÜV, CQC  |
| RUEF160-2       | —            | 3,000                | —                  | 15,000                 | UF160        | UL, CSA, TÜV, CQC  |
| RUEF160-AP      | —            | —                    | 2,000              | 10,000                 | UF160        | UL, CSA, TÜV, CQC  |
| RUEF185         | 500          | —                    | —                  | 10,000                 | UF185        | UL, CSA, TÜV, CQC  |
| RUEF185-2       | —            | 3,000                | —                  | 15,000                 | UF185        | UL, CSA, TÜV, CQC  |
| RUEF185-AP      | —            | —                    | 2,000              | 10,000                 | UF185        | UL, CSA, TÜV, CQC  |
| RUEF250         | 500          | —                    | —                  | 10,000                 | UF250        | UL, CSA, TÜV, CQC  |
| RUEF250-2       | —            | 3,000                | —                  | 15,000                 | UF250        | UL, CSA, TÜV, CQC  |
| RUEF250-AP      | —            | —                    | 2,000              | 10,000                 | UF250        | UL, CSA, TÜV, CQC  |
| RUEF300         | 500          | —                    | —                  | 10,000                 | UF300        | UL, CSA, TÜV, CQC  |
| RUEF300-2       | —            | 2,500                | —                  | 12,500                 | UF300        | UL, CSA, TÜV, CQC  |
| RUEF300-AP      | —            | —                    | 1,000              | 5,000                  | UF300        | UL, CSA, TÜV, CQC  |
| RUEF400         | 500          | —                    | —                  | 10,000                 | UF400        | UL, CSA, TÜV, CQC  |
| RUEF400-2       | —            | 1,500                | —                  | 7,500                  | UF400        | UL, CSA, TÜV, CQC  |
| RUEF400-AP      | —            | —                    | 1,000              | 5,000                  | UF400        | UL, CSA, TÜV, CQC  |

Table R6 - Packaging and Marking Information for Radial-leaded Devices

... Cont'd

| Part Number                        | Bag Quantity | Tape & Reel Quantity | Ammo Pack Quantity | Standard Pack Quantity | Part Marking | Agency Recognition |
|------------------------------------|--------------|----------------------|--------------------|------------------------|--------------|--------------------|
| <b>RUEF 30V</b>                    |              |                      |                    |                        |              |                    |
| RUEF500                            | 250          | —                    | —                  | 5,000                  | UF500        | UL, CSA, TÜV, CQC  |
| RUEF500-2                          | —            | 1,500                | —                  | 7,500                  | UF500        | UL, CSA, TÜV, CQC  |
| RUEF500-AP                         | —            | —                    | 1,000              | 5,000                  | UF500        | UL, CSA, TÜV, CQC  |
| RUEF600                            | 250          | —                    | —                  | 5,000                  | UF600        | UL, CSA, TÜV, CQC  |
| RUEF600-2                          | —            | 1,000                | —                  | 5,000                  | UF600        | UL, CSA, TÜV, CQC  |
| RUEF600-AP                         | —            | —                    | 1,000              | 5,000                  | UF600        | UL, CSA, TÜV, CQC  |
| RUEF700                            | 250          | —                    | —                  | 5,000                  | UF700        | UL, CSA, TÜV, CQC  |
| RUEF700-2                          | —            | 1,000                | —                  | 5,000                  | UF700        | UL, CSA, TÜV, CQC  |
| RUEF700-AP                         | —            | —                    | 1,000              | 5,000                  | UF700        | UL, CSA, TÜV, CQC  |
| RUEF800                            | 250          | —                    | —                  | 5,000                  | UF800        | UL, CSA, TÜV, CQC  |
| RUEF800-2                          | —            | 1,000                | —                  | 5,000                  | UF800        | UL, CSA, TÜV, CQC  |
| RUEF800-AP                         | —            | —                    | 1,000              | 5,000                  | UF800        | UL, CSA, TÜV, CQC  |
| RUEF900                            | 250          | —                    | —                  | 5,000                  | UF900        | UL, CSA, TÜV, CQC  |
| RUEF900-2                          | —            | 1,000                | —                  | 4,000                  | UF900        | UL, CSA, TÜV, CQC  |
| RUEF900-AP                         | —            | —                    | 1,000              | 4,000                  | UF900        | UL, CSA, TÜV, CQC  |
| <b>RHEF 30V - High Temperature</b> |              |                      |                    |                        |              |                    |
| RHEF050                            | 500          | —                    | —                  | 10,000                 | HF0.5        | UL, CSA, TÜV       |
| RHEF050-2                          | —            | 2,500                | —                  | 12,500                 | HF0.7        | UL, CSA, TÜV       |
| RHEF070                            | 500          | —                    | —                  | 10,000                 | HF0.7        | UL, CSA, TÜV       |
| RHEF070-2                          | —            | 2,500                | —                  | 12,500                 | HF0.7        | UL, CSA, TÜV       |
| RHEF100                            | 500          | —                    | —                  | 10,000                 | HF1.0        | UL, CSA, TÜV       |
| RHEF100-2                          | —            | 3,000                | —                  | 15,000                 | HF1.0        | UL, CSA, TÜV       |
| <b>RUSBF 16V</b>                   |              |                      |                    |                        |              |                    |
| RUSBF090                           | 500          | —                    | —                  | 10,000                 | RF090        | UL, CSA, TÜV       |
| RUSBF090-2                         | —            | 3,000                | —                  | 15,000                 | RF090        | UL, CSA, TÜV       |
| RUSBF090-AP                        | —            | —                    | 2,000              | 10,000                 | RF090        | UL, CSA, TÜV       |
| RUSBF110                           | 500          | —                    | —                  | 10,000                 | RF110        | UL, CSA, TÜV       |
| RUSBF110-2                         | —            | 3,000                | —                  | 15,000                 | RF110        | UL, CSA, TÜV       |
| RUSBF110-AP                        | —            | —                    | 2,000              | 10,000                 | RF110        | UL, CSA, TÜV       |
| RUSBF135                           | 500          | —                    | —                  | 10,000                 | RF135        | UL, CSA, TÜV       |
| RUSBF135-2                         | —            | 3,000                | —                  | 15,000                 | RF135        | UL, CSA, TÜV       |
| RUSBF135-AP                        | —            | —                    | 2,000              | 10,000                 | RF135        | UL, CSA, TÜV       |
| RUSBF160                           | 500          | —                    | —                  | 10,000                 | RF160        | UL, CSA, TÜV       |
| RUSBF160-2                         | —            | 3,000                | —                  | 15,000                 | RF160        | UL, CSA, TÜV       |
| RUSBF160-AP                        | —            | —                    | 2,000              | 10,000                 | RF160        | UL, CSA, TÜV       |
| RUSBF185                           | 500          | —                    | —                  | 10,000                 | RF185        | UL, CSA, TÜV       |
| RUSBF185-2                         | —            | 3,000                | —                  | 15,000                 | RF185        | UL, CSA, TÜV       |
| RUSBF185-AP                        | —            | —                    | 2,000              | 10,000                 | RF185        | UL, CSA, TÜV       |
| RUSBF250                           | 500          | —                    | —                  | 10,000                 | RF250        | UL, CSA, TÜV       |
| RUSBF250-2                         | —            | 3,000                | —                  | 15,000                 | RF250        | UL, CSA, TÜV       |
| RUSBF250-AP                        | —            | —                    | 2,000              | 10,000                 | RF250        | UL, CSA, TÜV       |
| <b>RGEF 16V</b>                    |              |                      |                    |                        |              |                    |
| RGEF250                            | 500          | —                    | —                  | 10,000                 | GF250        | UL, CSA, TÜV       |
| RGEF250-2                          | —            | 3,000                | —                  | 15,000                 | GF250        | UL, CSA, TÜV       |
| RGEF250-AP                         | —            | —                    | 2,000              | 10,000                 | GF250        | UL, CSA, TÜV       |
| RGEF300                            | 500          | —                    | —                  | 10,000                 | GF300        | UL, CSA, TÜV       |
| RGEF300-2                          | —            | 2,500                | —                  | 12,500                 | GF300        | UL, CSA, TÜV       |
| RGEF300-AP                         | —            | —                    | 2,000              | 10,000                 | GF300        | UL, CSA, TÜV       |
| RGEF400                            | 500          | —                    | —                  | 10,000                 | GF400        | UL, CSA, TÜV       |
| RGEF400-2                          | —            | 2,500                | —                  | 12,500                 | GF400        | UL, CSA, TÜV       |
| RGEF400-AP                         | —            | —                    | 2,000              | 10,000                 | GF400        | UL, CSA, TÜV       |
| RGEF500                            | 500          | —                    | —                  | 10,000                 | GF500        | UL, CSA, TÜV       |
| RGEF500-2                          | —            | 2,000                | —                  | 10,000                 | GF500        | UL, CSA, TÜV       |
| RGEF500-AP                         | —            | —                    | 2,000              | 10,000                 | GF500        | UL, CSA, TÜV       |
| RGEF600                            | 500          | —                    | —                  | 10,000                 | GF600        | UL, CSA, TÜV       |
| RGEF600-2                          | —            | 2,000                | —                  | 10,000                 | GF600        | UL, CSA, TÜV       |
| RGEF600-AP                         | —            | —                    | 2,000              | 10,000                 | GF600        | UL, CSA, TÜV       |

Table R6 - Packaging and Marking Information for Radial-leaded Devices

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| Part Number                        | Bag Quantity | Tape & Reel Quantity | Ammo Pack Quantity | Standard Pack Quantity | Part Marking | Agency Recognition |
|------------------------------------|--------------|----------------------|--------------------|------------------------|--------------|--------------------|
| <b>RGEF 16V</b>                    |              |                      |                    |                        |              |                    |
| RGEF700                            | 500          | —                    | —                  | 10,000                 | GF700        | UL, CSA, TÜV       |
| RGEF700-2                          | —            | 1,500                | —                  | 7,500                  | GF700        | UL, CSA, TÜV       |
| RGEF700-AP                         | —            | —                    | 1,500              | 7,500                  | GF700        | UL, CSA, TÜV       |
| RGEF800                            | 500          | —                    | —                  | 10,000                 | GF800        | UL, CSA, TÜV       |
| RGEF800-2                          | —            | 1,000                | —                  | 5,000                  | GF800        | UL, CSA, TÜV       |
| RGEF800-AP                         | —            | —                    | 1,000              | 5,000                  | GF800        | UL, CSA, TÜV       |
| RGEF900                            | 500          | —                    | —                  | 10,000                 | GF900        | UL, CSA, TÜV       |
| RGEF900-2                          | —            | 1,000                | —                  | 5,000                  | GF900        | UL, CSA, TÜV       |
| RGEF900-AP                         | —            | —                    | 1,000              | 5,000                  | GF900        | UL, CSA, TÜV       |
| RGEF1000                           | 250          | —                    | —                  | 5,000                  | GF1000       | UL, CSA, TÜV       |
| RGEF1000-2                         | —            | 1,000                | —                  | 5,000                  | GF1000       | UL, CSA, TÜV       |
| RGEF1000-AP                        | —            | —                    | 1,000              | 5,000                  | GF1000       | UL, CSA, TÜV       |
| RGEF1100                           | 250          | —                    | —                  | 5,000                  | GF1100       | UL, CSA, TÜV       |
| RGEF1100-2                         | —            | 1,000                | —                  | 5,000                  | GF1100       | UL, CSA, TÜV       |
| RGEF1100-AP                        | —            | —                    | 1,000              | 5,000                  | GF1100       | UL, CSA, TÜV       |
| RGEF1200                           | 250          | —                    | —                  | 5,000                  | GF1200       | UL, CSA, TÜV       |
| RGEF1200-2                         | —            | 1,000                | —                  | 5,000                  | GF1200       | UL, CSA, TÜV       |
| RGEF1200-AP                        | —            | —                    | 1,000              | 5,000                  | GF1200       | UL, CSA, TÜV       |
| RGEF1400                           | 250          | —                    | —                  | 5,000                  | GF1400       | UL, CSA, TÜV       |
| RGEF1400-2                         | —            | 1,000                | —                  | 5,000                  | GF1400       | UL, CSA, TÜV       |
| RGEF1400-AP                        | —            | —                    | 1,000              | 5,000                  | GF1400       | UL, CSA, TÜV       |
| <b>RHEF 16V - High Temperature</b> |              |                      |                    |                        |              |                    |
| RHEF200                            | 500          | —                    | —                  | 10,000                 | HF2          | UL, CSA, TÜV       |
| RHEF200-2                          | —            | 2,500                | —                  | 12,500                 | HF2          | UL, CSA, TÜV       |
| RHEF200-AP                         | —            | —                    | 2,500              | 12,500                 | HF2          | UL, CSA, TÜV       |
| New RHEF300                        | 500          | —                    | —                  | 10,000                 | HF3          | UL, CSA, TÜV       |
| RHEF300-2                          | —            | 2,000                | —                  | 10,000                 | HF3          | UL, CSA, TÜV       |
| RHEF300-AP                         | —            | —                    | 2,000              | 10,000                 | HF3          | UL, CSA, TÜV       |
| RHEF400                            | 500          | —                    | —                  | 10,000                 | HF4          | UL, CSA, TÜV       |
| RHEF400-2                          | —            | 1,500                | —                  | 7,500                  | HF4          | UL, CSA, TÜV       |
| RHEF400-AP                         | —            | —                    | 1,500              | 7,500                  | HF4          | UL, CSA, TÜV       |
| RHEF450                            | 500          | —                    | —                  | 10,000                 | HF4.5        | UL, CSA, TÜV       |
| RHEF450-2                          | —            | 1,500                | —                  | 7,500                  | HF4.5        | UL, CSA, TÜV       |
| RHEF450-AP                         | —            | —                    | 1,500              | 7,500                  | HF4.5        | UL, CSA, TÜV       |
| New RHEF550                        | 500          | —                    | —                  | 10,000                 | HF5.5        | UL, CSA, TÜV       |
| RHEF550-2                          | —            | 2,000                | —                  | 10,000                 | HF5.5        | UL, CSA, TÜV       |
| RHEF550-AP                         | —            | —                    | 2,000              | 10,000                 | HF5.5        | UL, CSA, TÜV       |
| RHEF600                            | 500          | —                    | —                  | 10,000                 | HF6          | UL, CSA, TÜV       |
| RHEF600-2                          | —            | 1,500                | —                  | 7,500                  | HF6          | UL, CSA, TÜV       |
| RHEF600-AP                         | —            | —                    | 1,500              | 7,500                  | HF6          | UL, CSA, TÜV       |
| RHEF650                            | 500          | —                    | —                  | 10,000                 | HF6.5        | UL, CSA, TÜV       |
| RHEF650-2                          | —            | 1,500                | —                  | 7,500                  | HF6.5        | UL, CSA, TÜV       |
| RHEF650-AP                         | —            | —                    | 1,500              | 7,500                  | HF6.5        | UL, CSA, TÜV       |
| New RHEF700                        | 500          | —                    | —                  | 10,000                 | HF7          | UL, CSA, TÜV       |
| RHEF700-2                          | —            | 1,500                | —                  | 7,500                  | HF7          | UL, CSA, TÜV       |
| RHEF700-AP                         | —            | —                    | 1,500              | 7,500                  | HF7          | UL, CSA, TÜV       |
| RHEF750                            | 500          | —                    | —                  | 10,000                 | HF7.5        | UL, CSA, TÜV       |
| RHEF750-2                          | —            | 1,000                | —                  | 5,000                  | HF7.5        | UL, CSA, TÜV       |
| RHEF750-AP                         | —            | —                    | 1,000              | 5,000                  | HF7.5        | UL, CSA, TÜV       |
| New RHEF800                        | 500          | —                    | —                  | 10,000                 | HF8          | UL, CSA, TÜV       |
| RHEF800-2                          | —            | 1,000                | —                  | 5,000                  | HF8          | UL, CSA, TÜV       |
| RHEF800-AP                         | —            | —                    | 1,000              | 5,000                  | HF8          | UL, CSA, TÜV       |
| RHEF900                            | 250          | —                    | —                  | 5,000                  | HF9          | UL, CSA, TÜV       |
| RHEF900-2                          | —            | 1,000                | —                  | 5,000                  | HF9          | UL, CSA, TÜV       |
| RHEF900-AP                         | —            | —                    | 1,000              | 5,000                  | HF9          | UL, CSA, TÜV       |
| RHEF1000                           | 250          | —                    | —                  | 5,000                  | HF10         | UL, CSA, TÜV       |
| RHEF1000-2                         | —            | 1,000                | —                  | 5,000                  | HF10         | UL, CSA, TÜV       |
| RHEF1000-AP                        | —            | —                    | 1,000              | 5,000                  | HF10         | UL, CSA, TÜV       |
| New RHEF1100                       | 250          | —                    | —                  | 5,000                  | HF11         | UL, CSA, TÜV       |
| RHEF1100-2                         | —            | 1,000                | —                  | 5,000                  | HF11         | UL, CSA, TÜV       |
| RHEF1100-AP                        | —            | —                    | 1,000              | 5,000                  | HF11         | UL, CSA, TÜV       |



RoHS compliant, ELV compliant

Table R6 - Packaging and Marking Information for Radial-leaded Devices

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|     | Part Number     | Bag Quantity | Tape & Reel Quantity | Ammo Pack Quantity | Standard Pack Quantity | Part Marking | Agency Recognition |
|-----|-----------------|--------------|----------------------|--------------------|------------------------|--------------|--------------------|
| New | <b>RHEF 16V</b> |              |                      |                    |                        |              |                    |
|     | RHEF1300        | 250          | —                    | —                  | 5,000                  | HF13         | UL, CSA, TÜV       |
|     | RHEF1300-2      | —            | 1,000                | —                  | 5,000                  | HF13         | UL, CSA, TÜV       |
|     | RHEF1300-AP     | —            | —                    | 1,000              | 5,000                  | HF13         | UL, CSA, TÜV       |
|     | RHEF1400        | 250          | —                    | —                  | 5,000                  | HF14         | UL, CSA, TÜV       |
|     | RHEF1400-2      | —            | 1,000                | —                  | 5,000                  | HF14         | UL, CSA, TÜV       |
|     | RHEF1400-AP     | —            | —                    | 1,000              | 5,000                  | HF14         | UL, CSA, TÜV       |
|     | RHEF1500        | 250          | —                    | —                  | 5,000                  | HF15         | UL, CSA, TÜV       |
|     | RHEF1500-2      | —            | 1,000                | —                  | 5,000                  | HF15         | UL, CSA, TÜV       |
|     | RHEF1500-AP     | —            | —                    | 1,000              | 5,000                  | HF15         | UL, CSA, TÜV       |
|     | <b>RUSBF 6V</b> |              |                      |                    |                        |              |                    |
|     | RUSBF075        | 500          | —                    | —                  | 10,000                 | RF075        | UL, CSA, TÜV       |
|     | RUSBF075-2      | —            | 3,000                | —                  | 15,000                 | RF075        | UL, CSA, TÜV       |
|     | RUSBF075-AP     | —            | —                    | 2,500              | 12,500                 | RF075        | UL, CSA, TÜV       |
|     | RUSBF120        | 500          | —                    | —                  | 10,000                 | RF120        | UL, CSA, TÜV       |
|     | RUSBF120-2      | —            | 3,000                | —                  | 15,000                 | RF120        | UL, CSA, TÜV       |
|     | RUSBF120-AP     | —            | —                    | 2,000              | 10,000                 | RF120        | UL, CSA, TÜV       |
|     | RUSBF155        | 500          | —                    | —                  | 10,000                 | RF155        | UL, CSA, TÜV       |
|     | RUSBF155-2      | —            | 3,000                | —                  | 15,000                 | RF155        | UL, CSA, TÜV       |
|     | RUSBF155-AP     | —            | —                    | 2,000              | 10,000                 | RF155        | UL, CSA, TÜV       |

Table R7 - Tape and Reel Specifications for Radial-leaded Devices

RXEF and BBRF devices are available in tape and reel packaging per EIA468-B/IEC60286-2 standards. See Figures R24 and R25 for details.

| Description                                                                | EIA Mark       | Dimension (mm) | Tolerance  |
|----------------------------------------------------------------------------|----------------|----------------|------------|
| Carrier tape width                                                         | W              | 18             | -0.5/+1.0  |
| Hold-down tape width                                                       | W <sub>4</sub> | 11             | Minimum    |
| Top distance between tape edges                                            | W <sub>6</sub> | 3              | Maximum    |
| Sprocket hole position                                                     | W <sub>5</sub> | 9              | -0.5/+0.75 |
| Sprocket hole diameter                                                     | D <sub>0</sub> | 4              | ± 0.2      |
| Abscissa to plane (straight lead) RXEF110 to RXEF300                       | H              | 18.5           | ± 2.5      |
| Abscissa to plane (kinked lead) RXEF010 to RXEF090, BBRF550, BBRF750       | H <sub>0</sub> | 16.0           | ± 0.5      |
| Abscissa to top RXEF010 to RXEF090, BBRF550, BBRF750                       | H <sub>1</sub> | 32.2           | Maximum    |
| Abscissa to top* RXEF110 to RXEF300                                        | H <sub>1</sub> | 47.5           | Maximum    |
| Overall width with lead protrusion RXEF010 to RXEF090, BBRF550, BBRF750    | C <sub>1</sub> | 43.2           | Maximum    |
| Overall width with lead protrusion* RXEF110 to RXEF300                     | C <sub>1</sub> | 58             | Maximum    |
| Overall width without lead protrusion RXEF010 to RXEF090, BBRF550, BBRF750 | C <sub>2</sub> | 42.5           | Maximum    |
| Overall width without lead protrusion* RXEF110 to RXEF300                  | C <sub>2</sub> | 57             | Maximum    |
| Lead protrusion                                                            | L <sub>1</sub> | 1.0            | Maximum    |
| Protrusion of cut-out                                                      | L              | 11.0           | Maximum    |
| Protrusion beyond hold-down tape                                           | l <sub>2</sub> | Not specified  | —          |
| Sprocket hole pitch                                                        | P <sub>0</sub> | 12.7           | ± 0.3      |
| Device pitch RXEF010 to RXEF090, BBRF550, BBRF750                          | —              | 12.7           | ± 0.3      |
| Device pitch RXEF110 to RXEF300                                            | —              | 25.4           | ± 0.61     |
| Pitch tolerance                                                            | —              | 20 consecutive | ± 1        |
| Tape thickness                                                             | t              | 0.9            | Maximum    |
| Overall tape and lead thickness RXEF010 to RXEF090                         | t <sub>1</sub> | 1.5            | Maximum    |
| Overall tape and lead thickness RXEF110 to RXEF300, BBRF550, BBRF750*      | t <sub>1</sub> | 2.3            | Maximum    |
| Splice sprocket hole alignment                                             | —              | 0              | ± 0.3      |
| Body lateral deviation                                                     | Δh             | 0              | ± 1.0      |
| Body tape plane deviation                                                  | Δp             | 0              | ± 1.3      |
| Ordinate to adjacent component lead RXEF010 to RXEF090, BBRF550, BBRF750   | P <sub>1</sub> | 3.81           | ± 0.7      |
| Ordinate to adjacent component lead RXEF110 to RXEF300                     | P <sub>1</sub> | 7.62           | ± 0.7      |
| Lead spacing* RXEF010 to RXEF185, BBRF550, BBRF750                         | F              | 5.08           | +0.75/-0.5 |
| Lead spacing* RXEF250 to RXEF300                                           | F              | 10.2           | +0.75/-0.5 |
| Reel width RXEF010 to RXEF090                                              | w <sub>2</sub> | 56.0           | Maximum    |
| Reel width* RXEF110 to RXEF300                                             | w <sub>2</sub> | 63.5           | Maximum    |
| Reel diameter                                                              | a              | 370.0          | Maximum    |
| Space between flanges less device                                          | w <sub>1</sub> | 4.75           | ± 3.25     |
| Arbor hold diameter                                                        | c              | 26.0           | ± 12.0     |
| Core diameter*                                                             | n              | 91.0           | Maximum    |
| Box                                                                        | —              | 64/372/362     | Maximum    |
| Consecutive missing places                                                 | —              | None           | —          |
| Empty places per reel                                                      | —              | 0.1%           | Maximum    |

\*Differs from EIA specification.

Table R7 - Tape and Reel Specifications for Radial-leaded Devices

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RUEF, RTEF and RUSBF devices are available in tape and reel packaging per EIA468-B/IEC60286-2 standards. See Figures R24 and R25 for details.

| Description                                                                                      | EIA Mark       | Dimension (mm) | Tolerance  |
|--------------------------------------------------------------------------------------------------|----------------|----------------|------------|
| Carrier tape width                                                                               | W              | 18             | -0.5/+1.0  |
| Hold-down tape width                                                                             | W <sub>4</sub> | 11             | Minimum    |
| Top distance between tape edges                                                                  | W <sub>6</sub> | 3              | Maximum    |
| Sprocket hole position                                                                           | W <sub>5</sub> | 9              | -0.5/+0.75 |
| Sprocket hole diameter                                                                           | D <sub>0</sub> | 4              | ± 0.2      |
| Abscissa to plane (straight lead)* RUEF300 to RUEF900                                            | H              | 18.5           | ± 2.5      |
| Abscissa to plane (kinked lead) RUSBF075 to RUSBF250, RUEF090 to RUEF250, RTEF120 to RTEF190     | H <sub>0</sub> | 16.0           | ± 0.5      |
| Abscissa to top RUSBF075 to RUSBF250, RUEF090 to RUEF300, RTEF120 to RTEF190                     | H <sub>1</sub> | 32.2           | Maximum    |
| Abscissa to top* RUEF400 to RUEF900                                                              | H <sub>1</sub> | 45.0           | Maximum    |
| Overall width w/lead protrusion RUSBF075 to RUSBF250, RUEF090 to RUEF300, RTEF120 to RTEF190     | C <sub>1</sub> | 43.2           | Maximum    |
| Overall width w/ lead protrusion RUEF400 to RUEF900                                              | C <sub>1</sub> | 56             | Maximum    |
| Overall width w/o lead protrusion RUSBF075 to RUSBF250, RUEF090 to RUEF300, RTEF120 to RTEF190   | C <sub>2</sub> | 42.5           | Maximum    |
| Overall width w/o lead protrusion RUEF400 to RUEF900                                             | C <sub>2</sub> | 56             | Maximum    |
| Lead protrusion                                                                                  | L <sub>1</sub> | 1.0            | Maximum    |
| Protrusion of cut-out                                                                            | L              | 11             | Maximum    |
| Protrusion beyond hold-down tape                                                                 | l <sub>2</sub> | Not specified  | —          |
| Sprocket hole pitch                                                                              | P <sub>0</sub> | 12.7           | ± 0.3      |
| Device pitch RUSBF075 to RUSBF250, RUEF090 to RUEF300, RTEF120 to RTEF190                        | —              | 12.7           | ± 0.3      |
| Device pitch RUEF400 to RUEF900                                                                  | —              | 25.4           | ± 0.6      |
| Pitch tolerance                                                                                  | —              | 20 consecutive | ± 1        |
| Tape thickness                                                                                   | t              | 0.9            | Maximum    |
| Overall tape and lead thickness RUSBF075 to RUSBF250, RUEF090 to RUEF250, RTEF120 to RTEF190     | t <sub>1</sub> | 1.5            | Maximum    |
| Overall tape and lead thickness* RUEF300 to RUEF900                                              | t <sub>1</sub> | 2.3            | Maximum    |
| Splice sprocket hole alignment                                                                   | —              | 0              | ± 0.3      |
| Body lateral deviation                                                                           | Δh             | 0              | ± 1.0      |
| Body tape plane deviation                                                                        | Δp             | 0              | ± 1.3      |
| Ordinate to adjacent component lead RUSBF075 to RUSBF250, RUEF090 to RUEF300, RTEF120 to RTEF190 | P <sub>1</sub> | 3.81           | ± 0.7      |
| Ordinate to adjacent component lead RUEF400 to RUEF900                                           | P <sub>1</sub> | 7.62           | ± 0.7      |
| Lead spacing* RUSBF075 to RUSBF250, RUEF090 to RUEF400, RTEF120 to RTEF190                       | F              | 5.08           | +0.75/-0.5 |
| Lead spacing* RUEF500 to RUEF900                                                                 | F              | 10.2           | +0.75/-0.5 |
| Reel width RUEF090 to RUEF400, RUSBF075 to RUSBF250, RTEF120 to RTEF190                          | w <sub>2</sub> | 56.0           | Maximum    |
| Reel width RUEF500* to RUEF900                                                                   | w <sub>2</sub> | 63.5           | Maximum    |
| Reel diameter                                                                                    | a              | 370.0          | Maximum    |
| Space between flanges less device                                                                | w <sub>1</sub> | 4.75           | ± 3.25     |
| Arbor hold diameter                                                                              | c              | 26.0           | ± 12.0     |
| Core diameter*                                                                                   | n              | 91.0           | Maximum    |
| Box                                                                                              | —              | 64/372/362     | Maximum    |
| Consecutive missing places                                                                       | —              | None           | —          |
| Empty places per reel                                                                            | —              | 0.1%           | Maximum    |

\*Differs from EIA specification.



RoHS compliant, ELV compliant

Table R7 - Tape and Reel Specifications for Radial-leaded Devices

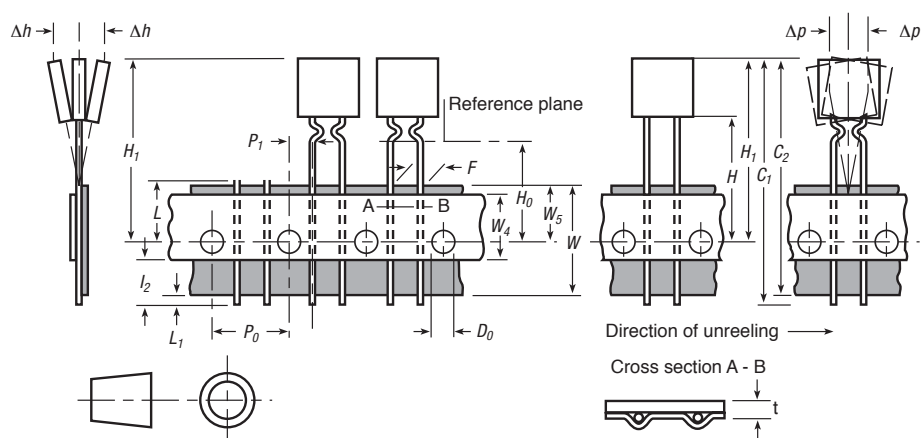
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RGEF and RHEF devices are available in tape and reel packaging per EIA468-B/IEC60286-2 standards. See Figures R24 and R25 for details.

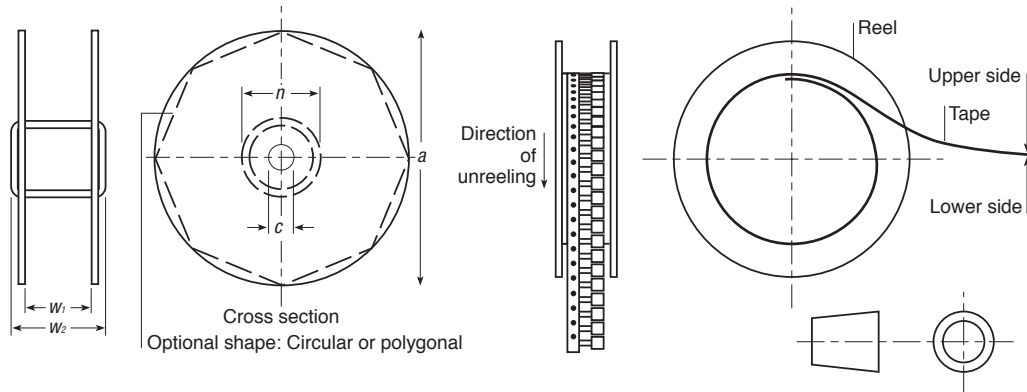
| Dimension Description                                                          | EIA Mark       | Dimension (mm) | Tolerance   |
|--------------------------------------------------------------------------------|----------------|----------------|-------------|
| Carrier tape width                                                             | W              | 18             | -0.5/+1.0   |
| Hold-down tape width                                                           | W <sub>4</sub> | 11             | Minimum     |
| Top distance between tape edges                                                | W <sub>6</sub> | 3              | Maximum     |
| Sprocket hole position                                                         | W <sub>5</sub> | 9              | -0.5/+0.75  |
| Sprocket hole diameter                                                         | D <sub>0</sub> | 4              | ± 0.2       |
| Abscissa to plane (straight lead) RGEF250 to RGEF1400                          | H              | 18.5           | ± 2.5       |
| Abscissa to plane (kinked lead) RHEF050 to RHEF1500                            | H <sub>0</sub> | 16.0           | ± 0.5       |
| Abscissa to top RGEF250 to RGEF600, RHEF050 to RHEF450                         | H <sub>1</sub> | 32.2           | Maximum     |
| Abscissa to top* RGEF700 to RGEF1400, RHEF600 to RHEF1500                      | H <sub>1</sub> | 45.0           | Maximum     |
| Overall width w/lead protrusion RGEF250 to RGEF600, RHEF050 to RHEF450         | C <sub>1</sub> | 43.2           | Maximum     |
| Overall width w/lead protrusion RGEF700 to RGEF1400, RHEF600 to RHEF1500       | C <sub>1</sub> | 55             | Maximum     |
| Overall width w/o lead protrusion RGEF250 to RGEF600, RHEF050 to RHEF450       | C <sub>2</sub> | 42.5           | Maximum     |
| Overall width w/o lead protrusion RGEF700 to RGEF1400, RHEF600 to RHEF1500     | C <sub>2</sub> | 54             | Maximum     |
| Lead protrusion                                                                | L <sub>1</sub> | 1.0            | Maximum     |
| Protrusion of cut-out                                                          | L              | 11             | Maximum     |
| Protrusion beyond hold-down tape                                               | l <sub>2</sub> | Not specified  | —           |
| Sprocket hole pitch                                                            | P <sub>0</sub> | 12.7           | ± 0.3       |
| Device pitch RGEF250 to RGEF700, RHEF050 to RHEF600                            | —              | 25.4           | ± 0.61      |
| Device pitch RGEF800 to RGEF1400, RHEF650 to RHEF1500                          | —              | 25.4           | ± 0.6       |
| Pitch tolerance                                                                | —              | 20 consecutive | ± 1         |
| Tape thickness                                                                 | t              | 0.9            | Maximum     |
| Overall tape and lead thickness* RGEF250 to RGEF1100, RHEF050 to RHEF1000      | t <sub>1</sub> | 2.0            | Maximum     |
| Overall tape and lead thickness* RGEF1200 to RGEF1400, RHEF1300, RHEF1500      | t <sub>1</sub> | 2.3            | Maximum     |
| Splice sprocket hole alignment                                                 | —              | 0              | ± 0.3       |
| Body lateral deviation                                                         | h              | 0              | ± 1.0       |
| Body tape plane deviation                                                      | Δp             | 0              | ± 1.3       |
| Ordinate to adjacent component lead RGEF300 to RGEF1100, RHEF400 to RHEF750    | P <sub>1</sub> | 3.81           | ± 0.7       |
| Ordinate to adjacent component lead RGEF1200 to RGEF1400, RHEF1000 to RHEF1500 | P <sub>1</sub> | 7.62           | ± 0.7       |
| Lead spacing* RGEF250 to RGEF1100, RHEF050 to RHEF900                          | F              | 5.08           | +0.75/-0.5  |
| Lead spacing* RGEF1200 to RGEF1400, RHEF1000 to RHEF1500                       | F              | 10.2           | + 0.75/-0.5 |
| Reel width RGEF250 to RGEF600, RHEF050 to RHEF450                              | w <sub>2</sub> | 56.0           | Maximum     |
| Reel width* RGEF600 to RGEF1400 & RHEF600 to RHEF1500                          | w <sub>2</sub> | 63.5           | Maximum     |
| Reel diameter                                                                  | a              | 370.0          | Maximum     |
| Space between flanges less device*                                             | w <sub>1</sub> | 4.75           | ± 3.25      |
| Arbor hold diameter                                                            | c              | 26.0           | ± 12.0      |
| Core diameter*                                                                 | n              | 91.0           | Maximum     |
| Box                                                                            | —              | 64/372/362     | Maximum     |
| Consecutive missing places                                                     | —              | None           | —           |
| Empty places per reel                                                          | —              | 0.1%           | Maximum     |

\*Differs from EIA specification.

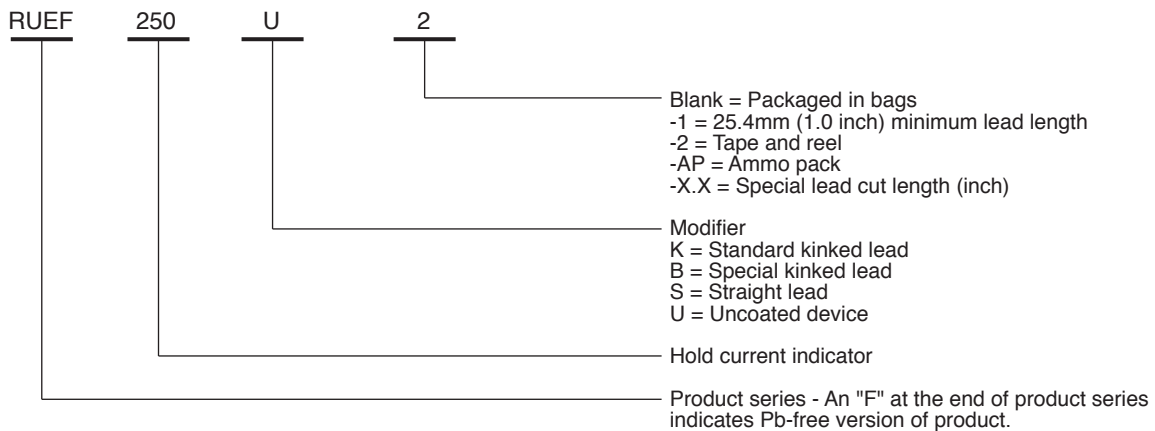
Figure R24 - EIA Referenced Taped Component Dimensions for Radial-leaded Devices



**Figure R25 - EIA Referenced Reel Dimensions for Radial-leaded Devices**



## Part Numbering System for Radial-leaded Devices



### **WARNING: Application Limitations for the LVR Product Line**

- 1) Users should independently evaluate the suitability of and test each product selected for their own application.
- 2) This product should not be used in an application where the maximum interrupt voltage or maximum interrupt current can be exceeded in a fault condition. Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- 3) A PTC device is not a fuse - it is a nonlinear thermistor that limits current. Because under a fault condition all PTC devices go into a high resistance state but not open circuit, hazardous voltage may be present at PTC locations.
- 4) The devices are intended for protection against occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- 5) In most applications, power must be removed and the fault condition cleared in order to reset a PTC device. However, under certain unusual conditions, a PTC device may automatically reset. Accordingly, PTC devices should not be used in an application where an automatic reset could create a safety hazard, such as garbage disposals and blenders.
- 6) It is the responsibility of the user to determine the need for back up or fail safe protection to prevent damage that may occur in the event of abnormal function or failure of the PTC device.
- 7) Operation in circuits with a large inductance can generate a circuit voltage ( $Ldi/dt$ ) above the rated voltage of a PTC device.
- 8) Devices are not recommended for reflow soldering.
- 9) Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, or mechanical procedures for electronic components.
- 10) PTC devices are not recommended to be installed in applications where the device is constrained such that its PTC properties are inhibited, for example in rigid potting materials or in rigid housings, which lack adequate clearance to accommodate device expansion.
- 11) Contamination of the PTC material with certain silicone-based oils or some aggressive solvents can adversely impact the performance of the devices.

**WARNING:**

- Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- The devices are intended for protection against occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- Operation in circuit with a large inductance can generate a circuit voltage ( $L \frac{di}{dt}$ ) above the rated voltage of the PolySwitch resettable device.