

# ANTREX Electronics

## Electronic Components Sourcing Information

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### Product Reference Information

|                      |                                 |
|----------------------|---------------------------------|
| <b>Part Number:</b>  | 0ABA-0375-TN                    |
| <b>Manufacturer:</b> | Bel Fuse Inc.                   |
| <b>Package:</b>      | Tape & Reel (TR), Cut Tape (CT) |
| <b>Availability:</b> | Please confirm with sales       |

#### Product Page:

<https://antrexco.com/product/details/bel-fuse-inc/0aba-0375-tn.html>

#### Request a Quote:

[Submit RFQ for this part](#)



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### Contact Information

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### Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

#### Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

# Type 0ABA

## Surface Mount Fast Acting Chip Fuse

HF  0ABA Series – 0402 Size

RoHS Compliant

### Features

- Fast Acting for excessive current, set the industry standard for performance, reliability and quality
- Small size, 0402 SMD
- Current rating from 200mA to 4A
- Wide operating temperature range from -55°C to 125°C
- Tape and Reel for automatic SMD placement
- Compatible with 260°C Pb-free IR and wave soldering process
- Excellent environmental integrity
- One time positive disconnect
- Full compliance with EU Directive 2011/65/EU and amending directive 2015/863 (MSL = 1)
- Halogen Free
- Lead Free
- Meets Bel automotive qualification\*

\* - Largely based on internal AEC-Q test plan

### Applications

- Electronic device and Battery

LEAD FREE = 

HALOGEN FREE = 



UK  
CA  
CE  
c  US  
AEC-Q Compliant

### Electrical Characteristics (UL STD. 248-14)

| Rated Current | 1.0In           | 2.5In | 3.0In |
|---------------|-----------------|-------|-------|
| 1A~4A         | 4 hours minimum | 5 sec |       |
| 200mA~750mA   | 4 hours minimum |       | 5 sec |

### Safety Agency Approvals

| Safety Agency                                                                                                    | Safety Agency Certificate | Voltage Rating (V) | Ampere Range / Volt @ I.R. ability* |
|------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|-------------------------------------|
|                               | E20624                    | 200mA–4A/32V DC    | 200mA–4A/35A@ 32V DC                |
| * DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source) |                           |                    |                                     |

### Physical Specifications

|           |                                                                                                                                                                                                                                                                                                                      |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Materials | Body : Ceramic Substrate                                                                                                                                                                                                                                                                                             |
|           | Terminations : Ag / Ni / Sn (100% Lead-free)                                                                                                                                                                                                                                                                         |
|           | Element Cover Coating : Lead-free Glass                                                                                                                                                                                                                                                                              |
| Marking   | On Fuse :                                                                                                                                                                                                                                                                                                            |
|           | None                                                                                                                                                                                                                                                                                                                 |
|           | On Label :                                                                                                                                                                                                                                                                                                           |
|           | "bel", "0ABA", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and "  ", "  "(China RoHS compliant). |

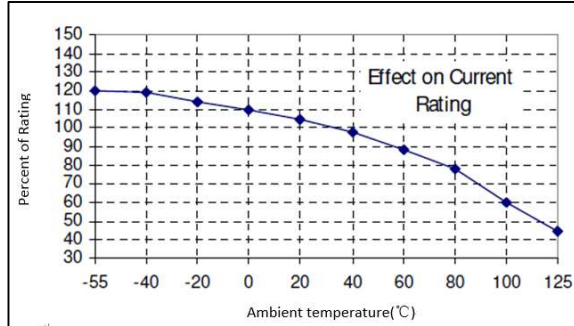
# Type 0ABA

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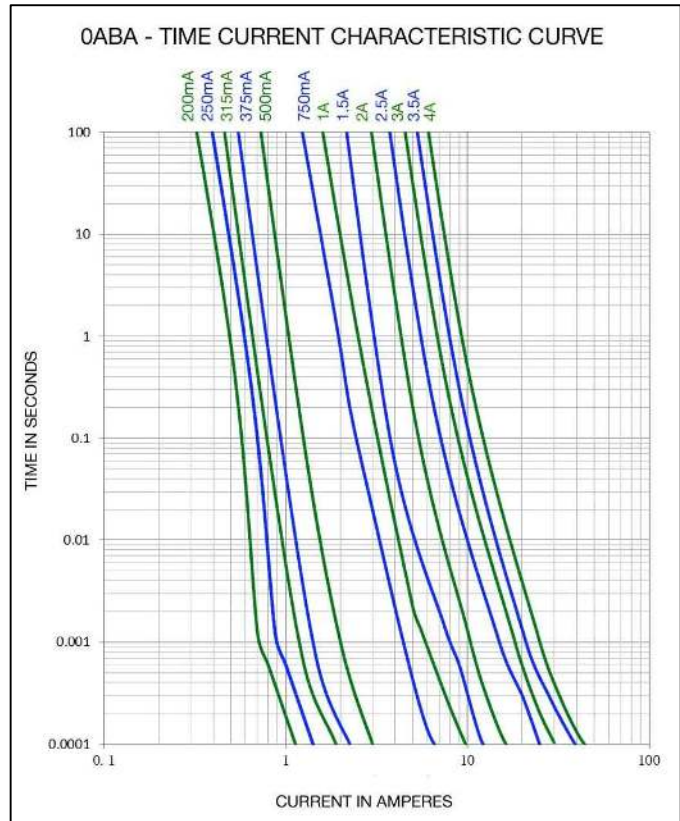
## Temperature Derating Curve

Normal ambient temperature:  $23 \pm 3^\circ\text{C}$

Operating temperature:  $-55 \sim 125^\circ\text{C}$ , with proper correction factor applied



## Average Time Current Curve



## Electrical Specifications

| Part Number  | Ampere Rating | Resistance (ohms)** Typ. | Typical Melt I <sup>2</sup> t *** DC (A <sup>2</sup> s) | Voltage and Interrupting Ratings                                                        | Agency Approvals                                                                      |
|--------------|---------------|--------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|              |               |                          |                                                         |                                                                                         |  |
| 0ABA-0200-XX | 200mA         | 1.75                     | 0.0006                                                  | See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings | Y                                                                                     |
| 0ABA-0250-XX | 250mA         | 1.50                     | 0.0010                                                  |                                                                                         | Y                                                                                     |
| 0ABA-0315-XX | 315mA         | 1.00                     | 0.0014                                                  |                                                                                         | Y                                                                                     |
| 0ABA-0375-XX | 375mA         | 0.78                     | 0.0018                                                  |                                                                                         | Y                                                                                     |
| 0ABA-0500-XX | 500mA         | 0.50                     | 0.0043                                                  |                                                                                         | Y                                                                                     |
| 0ABA-0750-XX | 750mA         | 0.22                     | 0.011                                                   |                                                                                         | Y                                                                                     |
| 0ABA-1000-XX | 1A            | 0.13                     | 0.04                                                    |                                                                                         | Y                                                                                     |
| 0ABA-1500-XX | 1.5A          | 0.078                    | 0.06                                                    |                                                                                         | Y                                                                                     |
| 0ABA-2000-XX | 2A            | 0.040                    | 0.13                                                    |                                                                                         | Y                                                                                     |
| 0ABA-2500-XX | 2.5A          | 0.024                    | 0.20                                                    |                                                                                         | Y                                                                                     |
| 0ABA-3000-XX | 3A            | 0.018                    | 0.33                                                    |                                                                                         | Y                                                                                     |
| 0ABA-3500-XX | 3.5A          | 0.014                    | 0.45                                                    |                                                                                         | Y                                                                                     |
| 0ABA-4000-XX | 4A            | 0.011                    | 0.60                                                    |                                                                                         | Y                                                                                     |

Consult manufacturer for other ratings

\*\*DC Cold Resistances are measured at <10% of rated current in ambient temperature of  $25^\circ\text{C}$ .

\*\*\*Typical Melting I<sup>2</sup>t (Measured with a battery bank at rated DC voltage, Measured at 1ms open time, time constant of calibrated circuit less than 50 microseconds).



Specifications subject to change without notice

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## Environmental Specifications

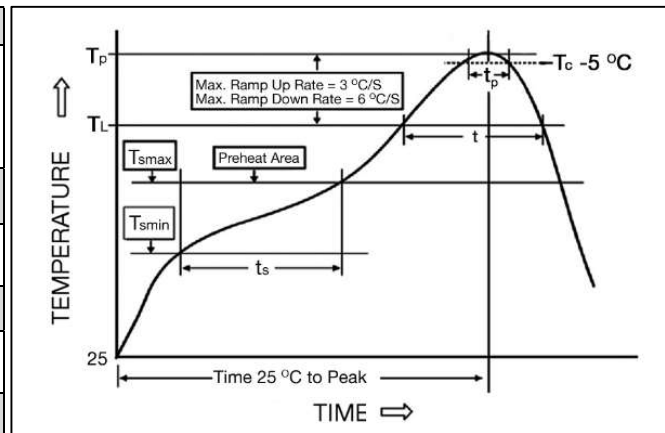
|                              |                                                                            |
|------------------------------|----------------------------------------------------------------------------|
| High temperature storage     | MIL-STD-202 Method 108                                                     |
| Temperature cycling          | JESD22 Method JA-104, Test Condition B                                     |
| Biased humidity              | MIL-STD-202 Method 103, 85°C/85% RH with 10% operating power for 1000 hrs. |
| Operational life             | MIL-STD-202 Method 108, Test Condition D                                   |
| Resistance to solvents       | MIL-STD-202 Method 215                                                     |
| Mechanical shock             | MIL-STD-202 Method 213, Test Condition C                                   |
| Vibration                    | MIL-STD-202G Method 204 Test condition D (10-2k HZ ,20G's for 20minutes)   |
| Resistance to soldering heat | MIL-STD-202 Method 210, Test condition B                                   |
| Thermal shock                | MIL-STD-202 Method 107                                                     |
| Solderability                | J-STD-002 Test B                                                           |
| Board flex(SMD)              | AEC-Q200-005                                                               |
| Terminal strength            | AEC-Q200-006                                                               |
| Electrical characterization  | 3 Temperature Electrical                                                   |

## Soldering Method

|                 |                                       |
|-----------------|---------------------------------------|
| Wave solder     | Reservoir temperature: 260°C          |
|                 | Time in reservoir: 10 seconds maximum |
| Infrared reflow | Temperature: 260°C                    |
|                 | Time: 30 seconds maximum              |

## Solder Reflow Profile

| Profile Feature                                                                                 |                 |
|-------------------------------------------------------------------------------------------------|-----------------|
| <b>Preheat &amp; Soak</b>                                                                       |                 |
| Temperature min (T <sub>min</sub> )                                                             | 150°C           |
| Temperature max (T <sub>max</sub> )                                                             | 200°C           |
| Time (T <sub>min</sub> to T <sub>max</sub> ) (t <sub>s</sub> )                                  | 60-120 seconds  |
| Average ramp-up rate (T <sub>max</sub> to T <sub>p</sub> )                                      | 3°C/second max. |
| Liquidous temperature (T <sub>L</sub> )                                                         | 217°C           |
| Time at liquidous (t <sub>L</sub> )                                                             | 60-150 seconds  |
| Peak package body temperature (T <sub>p</sub> )                                                 | 260°C           |
| Time (t <sub>p</sub> ) within 5°C of the specified classification temperature (T <sub>c</sub> ) | 30 seconds      |
| Average ramp-down rate (T <sub>p</sub> to T <sub>max</sub> )                                    | 6°C/second max. |
| Time 25°C to peak temperature                                                                   | 8 minutes max.  |



# Type 0ABA

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## Fuse FGNO Explanation

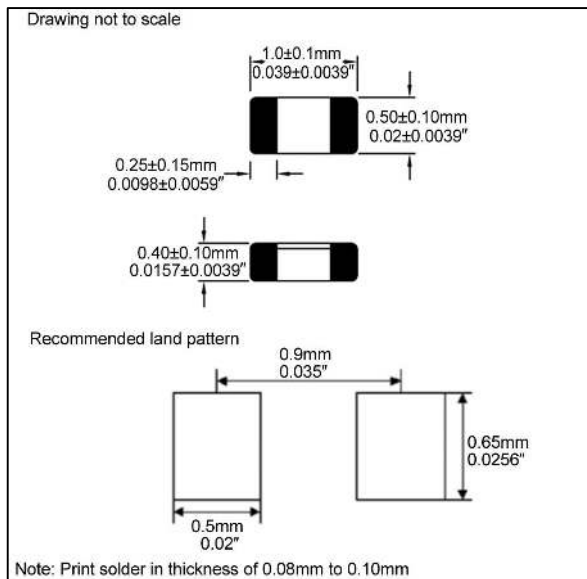
0ABA - [XXXX] X XX

0ABA=0ABA; [XXXX]=Ampere Rating; XX=See Ordering Information as below

| Fraction | Decimal | Milliamps | Bel FGNO[XXXX] |
|----------|---------|-----------|----------------|
| 1/5      | 0.200   | 200       | 0200           |
| 1/4      | .250    | 250       | 0250           |
|          | .315    | 315       | 0315           |
| 3/8      | .375    | 375       | 0375           |
| 1/2      | .500    | 500       | 0500           |
| 3/4      | .750    | 750       | 0750           |

| Fraction | Decimal | Amps | Bel FGNO[XXXX] |
|----------|---------|------|----------------|
|          | 1.0     | 1    | 1000           |
| 1-1/2    | 1.50    | 1.5  | 1500           |
|          | 2.0     | 2    | 2000           |
| 2-1/2    | 2.5     | 2.5  | 2500           |
|          | 3.0     | 3    | 3000           |
| 3-1/2    | 3.5     | 3.5  | 3500           |
|          | 4.0     | 4    | 4000           |

## Mechanical Dimensions



## Ordering Information

0ABA - XXXX - X X

FUSE TYPE 0ABA

AMPERE RATING Refer to fuse FGNO explanation table

PACKAGING CODE T = Tape & Reel

QUANTITY CODE N=10,000 pcs/Reel

## Packaging

| Packaging Tape & Reel                      | Packaging Specification | Quantity   | Packaging Code& Quantity Code |
|--------------------------------------------|-------------------------|------------|-------------------------------|
| 8 mm wide tape with 7 inches Diameter reel | EIA Standard 481-E      | 10,000 pcs | TN                            |



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