

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number: GTCN38-231M-Q10-FS
Manufacturer: Littelfuse Inc.
Package: Tray
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/littelfuse-inc/gtcn38-231m-q10-fs.html>

Request a Quote:

[Submit RFQ for this part](#)



Scan for product page

Contact Information

Email: info@antrexco.com

WhatsApp: +86-186-8066-5326

Website: <https://antrexco.com>

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.

Gas Discharge Tube Three Electrode Q Series

Overvoltage Protection Device

Raychem Circuit Protection Products

PRODUCT: GTCx38-xxxx-Q10

DOCUMENT: SCD 25913
REV LETTER: D
REV DATE: JULY 7, 2008
PAGE NO.: 1 OF 7

Specification Status: Released

GENERAL DESCRIPTION

BENEFITS

- Helps provide overvoltage fault protection against high energy surges
- Suitable for sensitive equipment due to excellent impulse sparkover response
- Suitable for high-frequency applications
- Highly reliable performance

FEATURES

- Crowbar device with low arc-voltage
- Low capacitance and insertion loss
- High accuracy spark-over voltages for high precision designs
- Tested per ITU K.12 recommendations
- Optional Fail-Short mechanism
- Non-radioactive materials

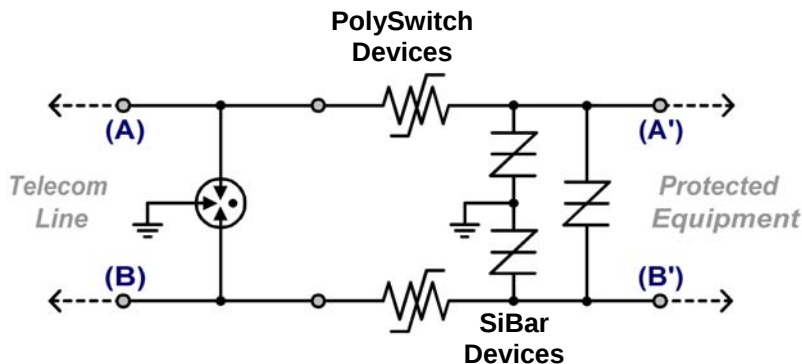
APPLICATIONS

- Telecommunications:
 - MDF modules, xDSL equipment, RF system protection
- Industrial Electronics and Commercial Electronics, such as
 - Power Supplies, Surge Protectors, Alarm systems

SYMBOL



TYPICAL APPLICATION SCHEMATIC



Gas Discharge Tube Three Electrode Q Series

Overvoltage Protection Device

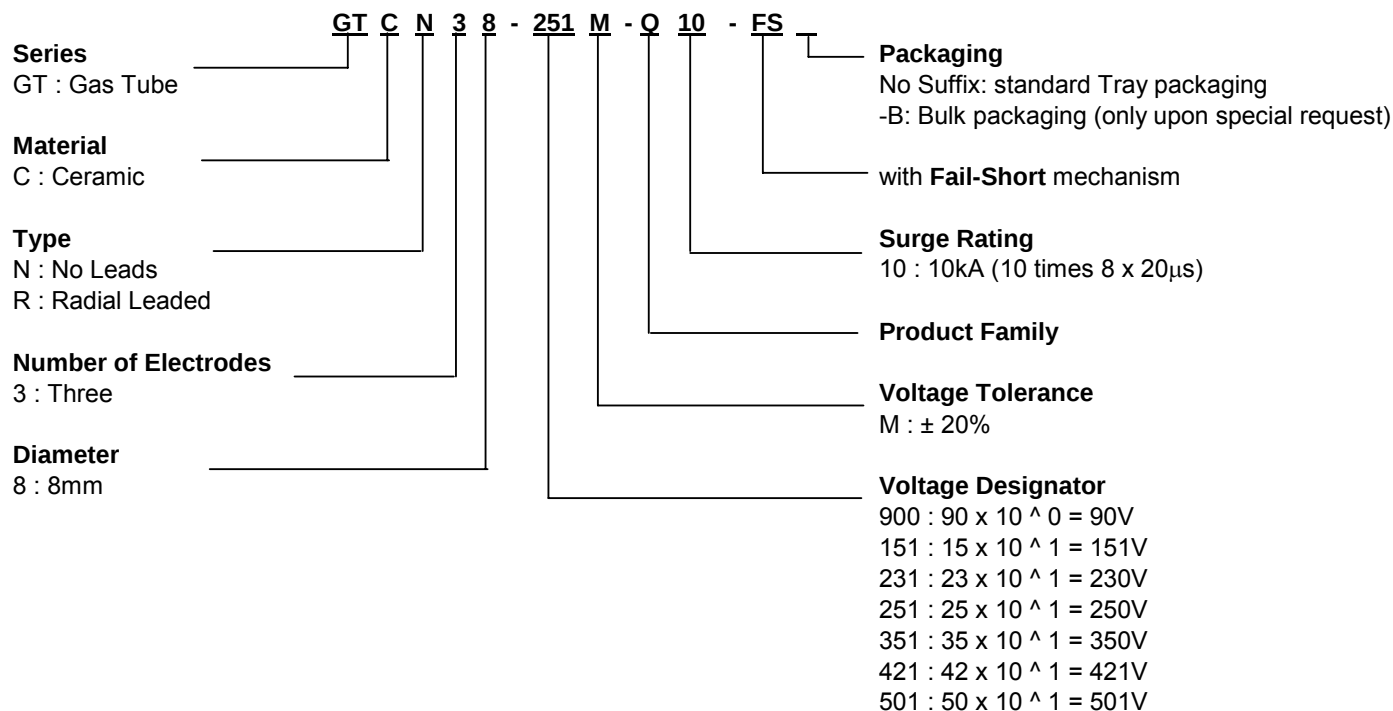
Raychem Circuit Protection Products

PRODUCT: GTCx38-xxxx-Q10

DOCUMENT: SCD 25913
REV LETTER: D
REV DATE: JULY 7, 2008
PAGE NO.: 2 OF 7

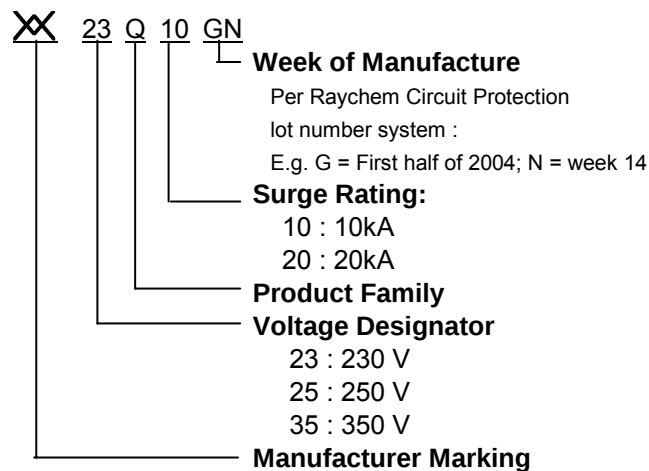
PART NUMBERING

EXAMPLE:



DEVICE MARKING

EXAMPLE : GTCR38-231M-Q10



Gas Discharge Tube Three Electrode Q Series

Overvoltage Protection Device

Raychem Circuit Protection Products

PRODUCT: GTCx38-xxxx-Q10

DOCUMENT: SCD 25913
REV LETTER: D
REV DATE: JULY 7, 2008
PAGE NO.: 3 OF 7

GENERAL CHARACTERISTICS

No Radioactive Material

Storage temperature:

Devices without Fail-Short Mechanism: -40°C ... +90°C

Devices with Fail-Short Mechanism: -20°C ... +65°C

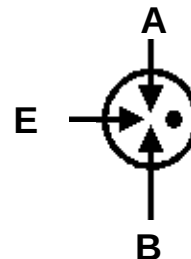
Operating temperature:

Devices without Fail-Short Mechanism: -40°C ... +90°C

Devices with Fail-Short Mechanism: -20°C ... +65°C

Body: Nickel Plated

Leads: Tin Plated



MATERIALS INFORMATION

ROHS Compliant

ELV Compliant

Directive 2002/95/EC
Compliant

Directive 2000/53/EC
Compliant

Gas Discharge Tube Three Electrode Q Series

Overvoltage Protection Device

Raychem Circuit Protection Products

PRODUCT: GTCx38-xxxx-Q10

DOCUMENT: SCD 25913
REV LETTER: D
REV DATE: JULY 7, 2008
PAGE NO.: 4 OF 7

DEVICE RATINGS AND CHARACTERISTICS

Part Number	DC Sparkover Voltage (A-E) (B-E)	Impulse Sparkover Voltage (A-E) (B-E)		Insulation Resistance	Capacitance	DC Holdover Voltage	Impulse Life (A + B - E)	Impulse Discharge Current 8/20 μ s (A + B - E)	AC Discharge Current, 50Hz (A + B - E)
	@ 100V/s	@ 100V/ μ s	@ 1kV/ μ s	@ 100V _{DC}	@ 1MHz	Per ITU K.12	10/1000 μ s, 200A	Repeat 10 times (5 times each polarity)	Repeat 5 times (1s interval)
GTCN38-900M-Q10 GTCN38-900M-Q10-FS GTCR38-900M-Q10 GTCR38-900M-Q10-FS	72-108	≤ 450	$\leq 500V$	$\geq 10,000M\Omega$	$\leq 3.0pF$	$\leq 52V$	300 times	10kA	10A
GTCN38-151M-Q10 GTCN38-151M-Q10-FS GTCR38-151M-Q10 GTCR38-151M-Q10-FS	120 - 180	≤ 500	≤ 600	$\geq 10,000M\Omega$	$\leq 3.0pF$	$\leq 52V$	300 times	10kA	10A
GTCN38-231M-Q10 GTCN38-231M-Q10-FS GTCR38-231M-Q10 GTCR38-231M-Q10-FS	184 - 280V	≤ 600	$\leq 700V$	$\geq 10,000M\Omega$	$\leq 3.0pF$	$\leq 135V$	300 times	10kA	10A
GTCN38-251M-Q10 GTCN38-251M-Q10-FS GTCR38-251M-Q10 GTCR38-251M-Q10-FS	200 - 300V	≤ 600	$\leq 700V$	$\geq 10,000M\Omega$	$\leq 3.0pF$	$\leq 135V$	300 times	10kA	10A
GTCN38-351M-Q10 GTCN38-351M-Q10-FS GTCR38-351M-Q10 GTCR38-351M-Q10-FS	280 - 420V	≤ 900	$\leq 900V$	$\geq 10,000M\Omega$	$\leq 3.0pF$	$\leq 135V$	300 times	10kA	10A
GTCN38-421M-Q10 GTCN38-421M-Q10-FS GTCR38-421M-Q10 GTCR38-421M-Q10-FS	300 - 500	≤ 900	≤ 1000	$\geq 10,000M\Omega$	$\leq 3.0pF$	$\leq 135V$	300 times	10kA	10A
GTCN38-501M-Q10 GTCN38-501M-Q10-FS GTCR38-501M-Q10 GTCR38-501M-Q10-FS	400 - 600	≤ 1100	≤ 1200	$\geq 10,000M\Omega$	$\leq 3.0pF$	$\leq 135V$	300 times	10kA	10A

Gas Discharge Tube Three Electrode Q Series

Overvoltage Protection Device

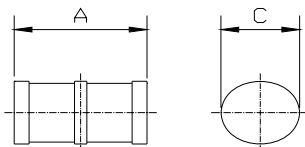
Raychem Circuit Protection Products

PRODUCT: GTCx38-xxxx-Q10

DOCUMENT: SCD 25913
REV LETTER: D
REV DATE: JULY 7, 2008
PAGE NO.: 5 OF 7

DIMENSIONS

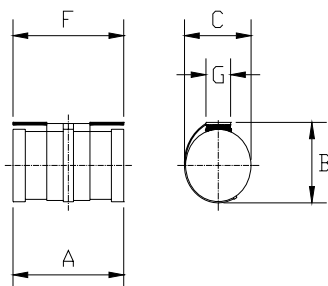
No Leads, no Fail-Short mechanism
(GTCN38-xxxx-Q10)



mm:
in*:

A		C	
MIN	MAX	MIN	MAX
9.7	10.3	7.8	8.2
0.38	0.41	0.31	0.32

No Leads, with Fail-Short mechanism
(GTCN38-xxxx-10-FS)



mm:
in*:

A		B		C		F		G	
MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
9.7	10.3	--	9.5	--	8.2	--	10.5	--	3.0
0.38	0.41	--	0.37	--	0.32	--	0.41	--	0.12

- Rounded off approximation

* R

Gas Discharge Tube Three Electrode Q Series

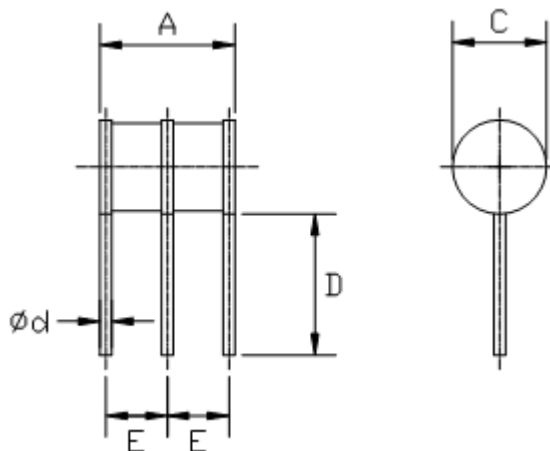
Overvoltage Protection Device

Raychem Circuit Protection Products

PRODUCT: GTCx38-xxxx-Q10

DOCUMENT: SCD 25913
REV LETTER: D
REV DATE: JULY 7, 2008
PAGE NO.: 6 OF 7

Radial Leads, no Fail-Short mechanism
(GTCR38-xxxx-Q10)

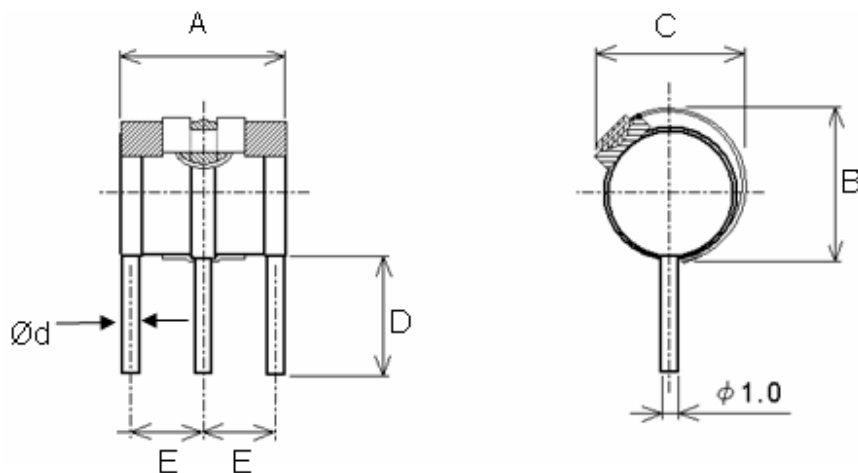


mm:
in*:

A		C		D		E		Ød
MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	NOM
9.7	10.3	7.8	8.2	6.5	7.5	4.1	4.7	1.0
0.38	0.41	0.31	0.32	0.26	0.30	0.16	0.19	0.04

* Rounded off approximation

Radial Leads, with Fail-Short mechanism
(GTCR38-xxxxQ10-FS)



mm:
in*:

A		B		C		D		E		Ød
MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	NOM
9.7	10.3	--	9.5	--	8.5	6.0	--	4.1	4.7	1.0
0.38	0.41	--	0.37	--	0.34	0.24	--	0.16	0.19	0.04

* Rounded off approximation

Gas Discharge Tube Three Electrode Q Series

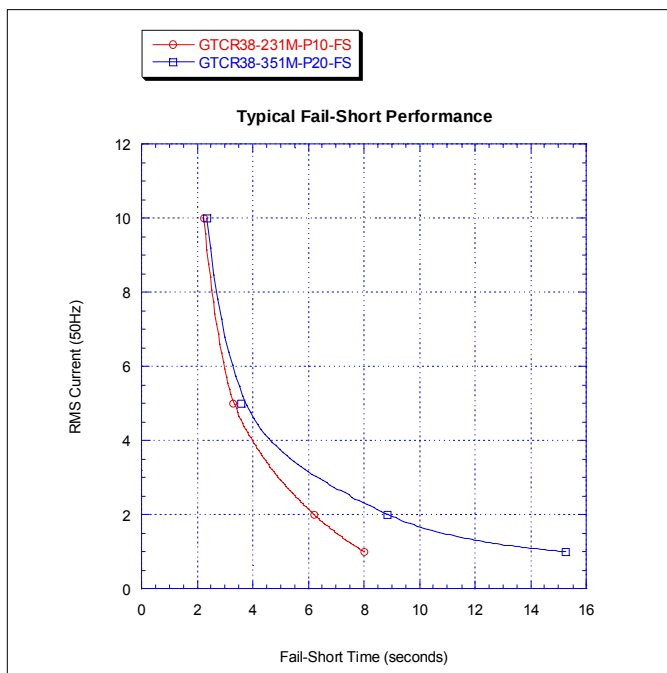
Overvoltage Protection Device

Raychem Circuit Protection Products

PRODUCT: GTCx38-xxxx-Q10

DOCUMENT: SCD 25913
REV LETTER: D
REV DATE: JULY 7, 2008
PAGE NO.: 7 OF 7

FAIL-SHORT MECHANISM RESPONSE TIME (Graph represents typical values)



Note: Both electrodes simultaneously powered, each with the AC current value in the graph

PACKAGING

Packaging	Bulk* (vacuum bags)	Tray	Standard Box
Quantity	200	100	1,000**

* Standard packaging is in trays.
Bulk packaging is only available upon request.

** 5 bags or 10 trays

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of each product for their applications. Tyco Electronics Corporation assumes no responsibility for the use of its product or for any infringement of patents or other rights of third parties resulting from the use of its product. No license is granted by implication or otherwise under any patent or proprietary right of Tyco Electronics except the right to use such product for the purpose for which it is sold. Tyco Electronics reserves the right to change or update, without notice, any information contained in this publication; to change, without notice, the design, construction, processing, or specification of any product; and to discontinue or limit production or distribution of any product. This publication supersedes and replaces all information previously supplied. Without expressed or written consent by an officer of Tyco Electronics, Tyco Electronics does not authorize the use of any of its products as components in nuclear facility applications, aerospace, or in critical life support devices or systems. Tyco Electronics' only obligations are those in the Tyco Electronics Standard Terms and Conditions of Sale and in no case will Tyco Electronics be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.