



308 Constitution Drive
Menlo Park, CA 94025-1164
Phone: 800-227-4856
www.circuitprotection.com

Gas Discharge Tube High Voltage Two Electrode Series Overvoltage Protection Device

Raychem Circuit Protection Products

PRODUCT: GTCA28-xx2x-P0x

DOCUMENT: SCD 25818
REV LETTER: J
REV DATE: 15-Apr-11
PAGE NO.: 1 OF 5

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
- Non-radioactive materials

APPLICATIONS

- Industrial Electronics and Commercial Electronics, such as
 - Power Supplies, Surge Protectors, Alarm systems

SYMBOL





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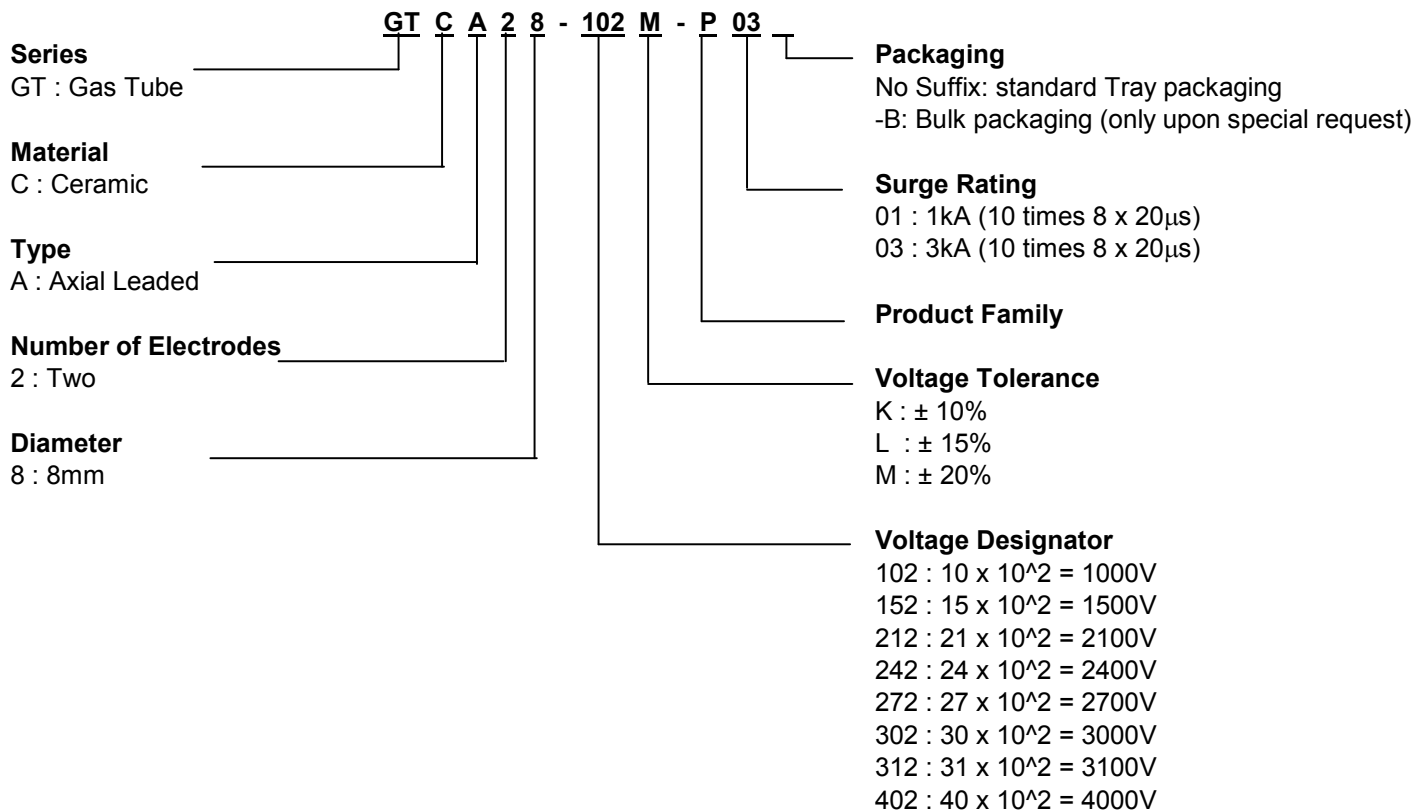
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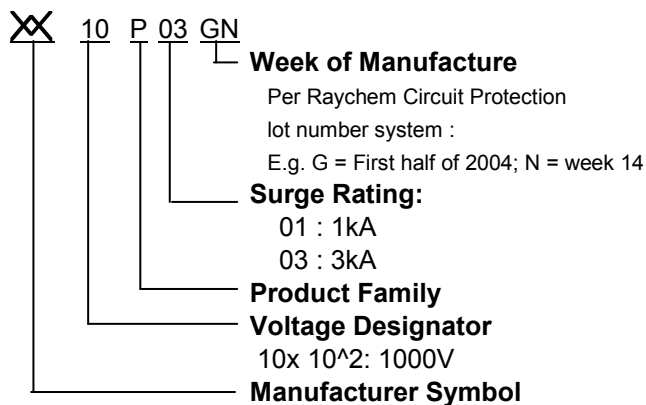
PART NUMBERING

EXAMPLE:



DEVICE MARKING

EXAMPLE : GTCA28-102M-P03





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GENERAL CHARACTERISTICS

No Radioactive Material

Storage temperature: -40°C ... +90°C

Operating temperature: -40°C ... + 90°C

Body: Nickel Plated

Leads: Tin Plated

MATERIALS INFORMATION

RoHS Compliant

ELV Compliant

Directive 2002/95/EC
Compliant

Directive 2000/53/EC
Compliant

DEVICE RATINGS AND CHARACTERISTICS

	DC Sparkover Voltage	Impulse Sparkover Voltage	Insulation Resistance	Capacitance	Impulse Life	Impulse Discharge Current 8/20 μ s		AC Discharge Current, 50 Hz	
Part Number	@ 100V/s	@ 100V / μ s	@ 1000V _{DC}	@ 1MHz	10/1000 μ s, 500A	Single Hit	Repeat 10 times (5 times - each polarity)	Single Hit, 9 Cycles	Repeat 10 times (1s interval)
GTCA28-102M-P03	1,000V $\pm$ 20%	$\leq$ 1,500V	$\geq$ 10,000M Ω ¹	$\leq$ 1.0pF	200 times	10kA	3kA	5A	1A
GTCA28-152L-P03	1,500V $\pm$ 15%	$\leq$ 2,200V	$\geq$ 10,000M Ω ²	$\leq$ 1.0pF	10 times	10kA	3kA	5A	1A
GTCA28-212M-P03	2,100V $\pm$ 20%	$\leq$ 2,700V	$\geq$ 10,000M Ω ²	$\leq$ 1.0pF	10 times	10kA	3kA	5A	1A
GTCA28-242M-P03	2,400V $\pm$ 20%	$\leq$ 3,000V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	10 times	10kA	3kA	5A	1A
GTCA28-272L-P03	2,700 $\pm$ 15% ³	$\leq$ 3,700V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	300 times ⁴	10kA	3kA	N/A	N/A
GTCA28-302M-P01	3,000V $\pm$ 20%	$\leq$ 4,000V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	10 times	10kA	1kA	5A	1A
GTCA28-312L-P03	3,100V $\pm$ 15% ³	$\leq$ 3,700V ⁵	$\geq$ 10,000M Ω	$\leq$ 1.0pF	300 times ⁴	10kA	3kA	N/A	N/A
GTCA28-402M-P01	4,000V $\pm$ 20%	$\leq$ 5,000V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	10 times	10kA	1kA	5A	1A

Note 1. Resistance measured at 250 V_{DC}.

Note 2. Resistance measured at 500 V_{DC}.

Note 3. DC Spark over Voltage Measured at 5kV/s.

Note 4. Measured with an 8/20 μ s, 100A impulse.

Note 5. Measured with 1kV/ μ s.



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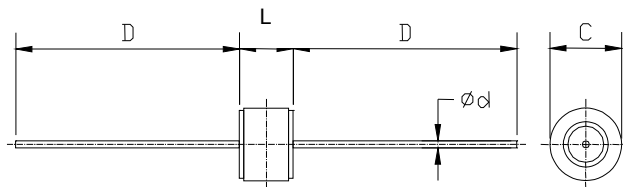
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DIMENSIONS



Part Number		L		C		D		Ød
		MIN	MAX	MIN	MAX	MIN	MAX	NOM
GTCA28-102M-P03	mm	7.7	8.3	7.7	8.3	28	32	0.8
	in*	0.3	0.33	0.3	0.33	1.1	1.26	0.03
GTCA28-152L-P03	mm	8.2	8.8	7.7	8.3	28	32	0.8
	in*	0.32	0.35	0.3	0.33	1.1	1.26	0.03
GTCA28-212M-P03	mm	8.2	8.8	7.7	8.3	28	32	0.8
	in*	0.32	0.35	0.3	0.33	1.1	1.26	0.03
GTCA28-242M-P03	mm	8.2	8.8	7.7	8.3	28	32	0.8
	in*	0.32	0.35	0.3	0.33	1.1	1.26	0.03
GTCA28-272L-P03	mm	8.5	9.1	7.7	8.3	28	32	0.8
	in*	0.33	0.36	0.3	0.33	1.1	1.26	0.03
GTCA28-312L-P03	mm	8.5	9.1	7.7	8.3	28	32	0.8
	in*	0.33	0.36	0.3	0.33	1.1	1.26	0.03
GTCA28-302M-P01	mm	8.2	8.8	7.7	8.3	28	32	0.8
	in*	0.32	0.35	0.3	0.33	1.1	1.26	0.03
GTCA28-402M-P01	mm	8.2	8.8	7.7	8.3	28	32	0.8
	in*	0.32	0.35	0.3	0.33	1.1	1.26	0.03

*Rounded off approximation

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

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