

Gas Discharge Tube
Standard Two Electrode Series
Overvoltage Protection Device

Raychem Circuit Protection Products

PRODUCT: GTCx28-xxxx-P05

DOCUMENT: SCD 25819
REV LETTER: D
REV DATE: JULY 7, 2008
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
- Tested per ITU K.12 recommendations
- Non-radioactive materials

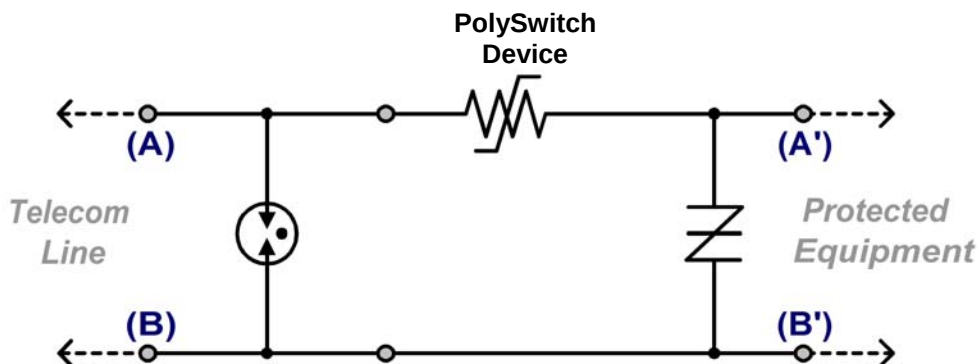
APPLICATIONS

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

SYMBOL

APPLICATION SCHEMATIC

TYPICAL



SiBar
Device

Gas Discharge Tube Standard Two Electrode Series Overvoltage Protection Device

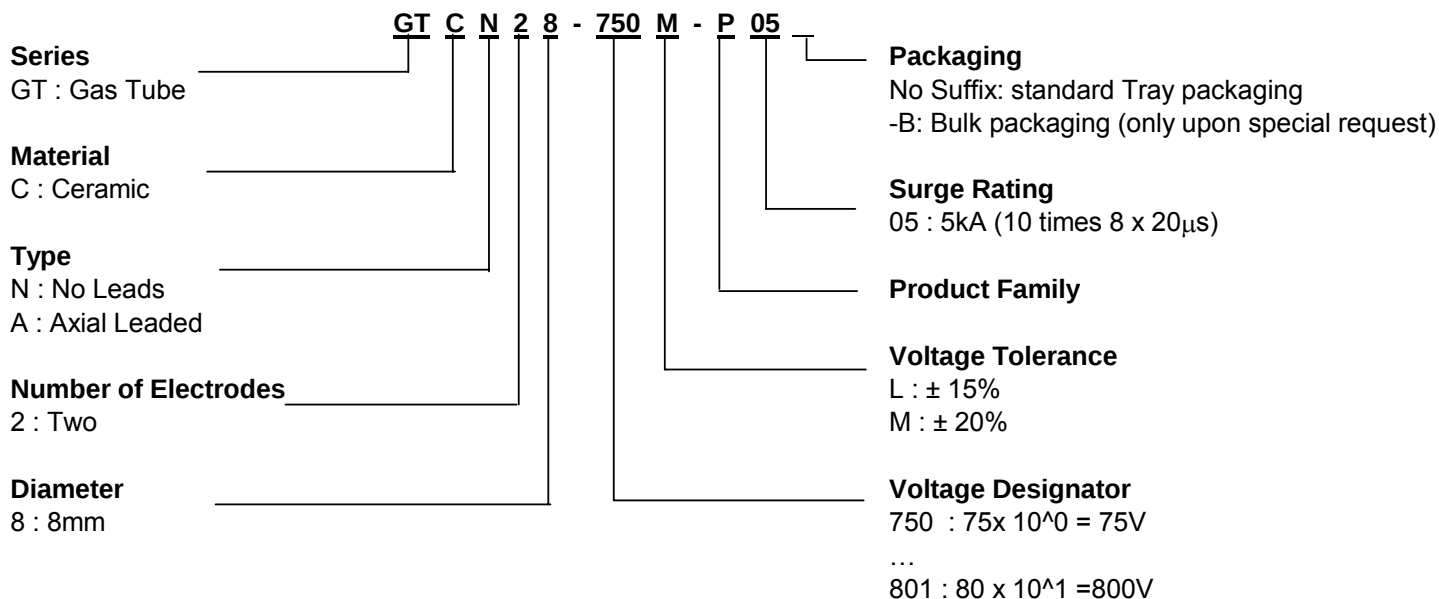
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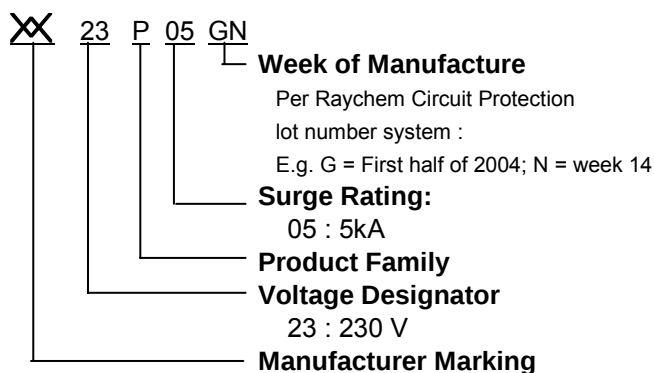
PART NUMBERING

EXAMPLE:



DEVICE MARKING

EXAMPLE : GTCA28-231L-P05:



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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

UL 497B Pending



MATERIALS INFORMATION

RoHS Compliant

ELV Compliant

Directive 2002/95/EC
Compliant

Directive 2000/53/EC
Compliant

DEVICE RATINGS AND CHARACTERISTICS

Part Number	DC Sparkover Voltage	Impulse Sparkover Voltage		Insulation Resistance	Capacitance	DC Holdover Voltage	Impulse Life	Impulse Discharge Current 8/20 μ s		AC Discharge Current, 50 Hz	
	@ 100V/s	@ 100V/ μ s	@ 1kV/ μ s	@ 100V	@ 1MHz	Per ITUK.12	10/1000 μ s, 500A	Single Hit	Repeat 10 times (5 times each polarity)	Single Hit, 9 Cycles	Repeat (1s interval)
GTCN28-750M-P05 GTCA28-750M-P05	75V $\pm$ 20%	$\leq$ 500V	$\leq$ 700V	$\geq$ 10,000M Ω ¹	$\leq$ 1.0pF	$\leq$ 52V	300 times	10kA	5kA	65A	10A, 5 times
GTCN28-900M-P05 GTCA28-900M-P05	90V $\pm$ 20%	$\leq$ 500V	$\leq$ 700V	$\geq$ 10,000M Ω ¹	$\leq$ 1.0pF	$\leq$ 52V	300 times	10kA	5kA	65A	10A, 5 times
GTCN28-151M-P05 GTCA28-151M-P05	150V $\pm$ 20%	$\leq$ 500V	$\leq$ 700V	$\geq$ 10,000M Ω ¹	$\leq$ 1.0pF	$\leq$ 80V	300 times	10kA	5kA	65A	10A, 5 times
GTCN28-231L-P05 GTCA28-231L-P05	230V $\pm$ 15%	$\leq$ 600V	$\leq$ 750V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	$\leq$ 135V	300 times	10kA	5kA	65A	10A, 5 times
GTCN28-251L-P05 GTCA28-251L-P05	250V $\pm$ 15%	$\leq$ 600V	$\leq$ 800V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	$\leq$ 135V	300 times	10kA	5kA	65A	10A, 10times
GTCN28-301L-P05 GTCA28-301L-P05	300V $\pm$ 15%	$\leq$ 700V	$\leq$ 850V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	$\leq$ 150V	300 times	10kA	5kA	65A	10A, 10times
GTCN28-351L-P05 GTCA28-351L-P05	350V $\pm$ 15%	$\leq$ 700V	$\leq$ 850V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	$\leq$ 150V	300 times	10kA	5kA	65A	10A, 10times
GTCN28-401L-P05 GTCA28-401L-P05	400V $\pm$ 15%	$\leq$ 700V	$\leq$ 850V	$\geq$ 10,000M Ω	$\leq$ 1.0pF	$\leq$ 150V	300 times	10kA	5kA	65A	10A, 10times
GTCN28-471L-P05 GTCA28-471L-P05	470V $\pm$ 15%	$\leq$ 700V	$\leq$ 850V	$\geq$ 10,000M Ω ²	$\leq$ 1.0pF	$\leq$ 150V	300 times	10kA	5kA	65A	10A, 10times
GTCN28-601L-P05 GTCA28-601L-P05	600V $\pm$ 15%	$\leq$ 800V	$\leq$ 1,000V	$\geq$ 10,000M Ω ²	$\leq$ 1.0pF	$\leq$ 150V	300 times	10kA	5kA	65A	10A, 10times
GTCN28-801L-P05 GTCA28-801L-P05	800V $\pm$ 15%	$\leq$ 1,000V	$\leq$ 1,200V	$\geq$ 10,000M Ω ²	$\leq$ 1.0pF	$\leq$ 150V	300 times	10kA	5kA	65A	10A, 10times

Note 1. Insulation Resistance at 50 V_{DC}.

Note 2. Insulation Resistance at 250 V_{DC}.

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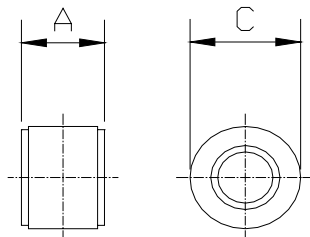
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DIMENSIONS

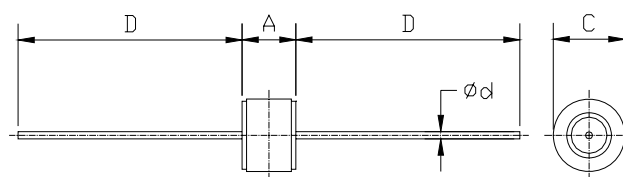
No Leads (GTCN28-xxxx-P05)



	A		C	
	MIN	MAX	MIN	MAX
mm:	5.7	6.3	7.7	8.3
in*:	0.22	0.25	0.30	0.33

*Rounded off approximation

Axial Leads (GTCA28-xxxx-P05)



	A		C		D		Ød
	MIN	MAX	MIN	MAX	MIN	MAX	NOM
mm:	5.7	6.3	7.7	8.3	28.0	32.0	0.8
in*:	0.22	0.25	0.30	0.33	1.10	1.26	0.03

* Rounded off approximation



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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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