

Specification Status: Released

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

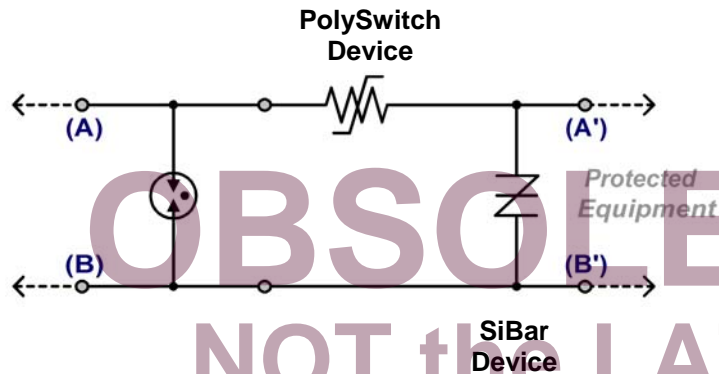
APPLICATIONS

- 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



OBSOLETE
NOT the LATEST
REVISION

Gas Discharge Tube High Surge Two Electrode Series Overvoltage Protection Device

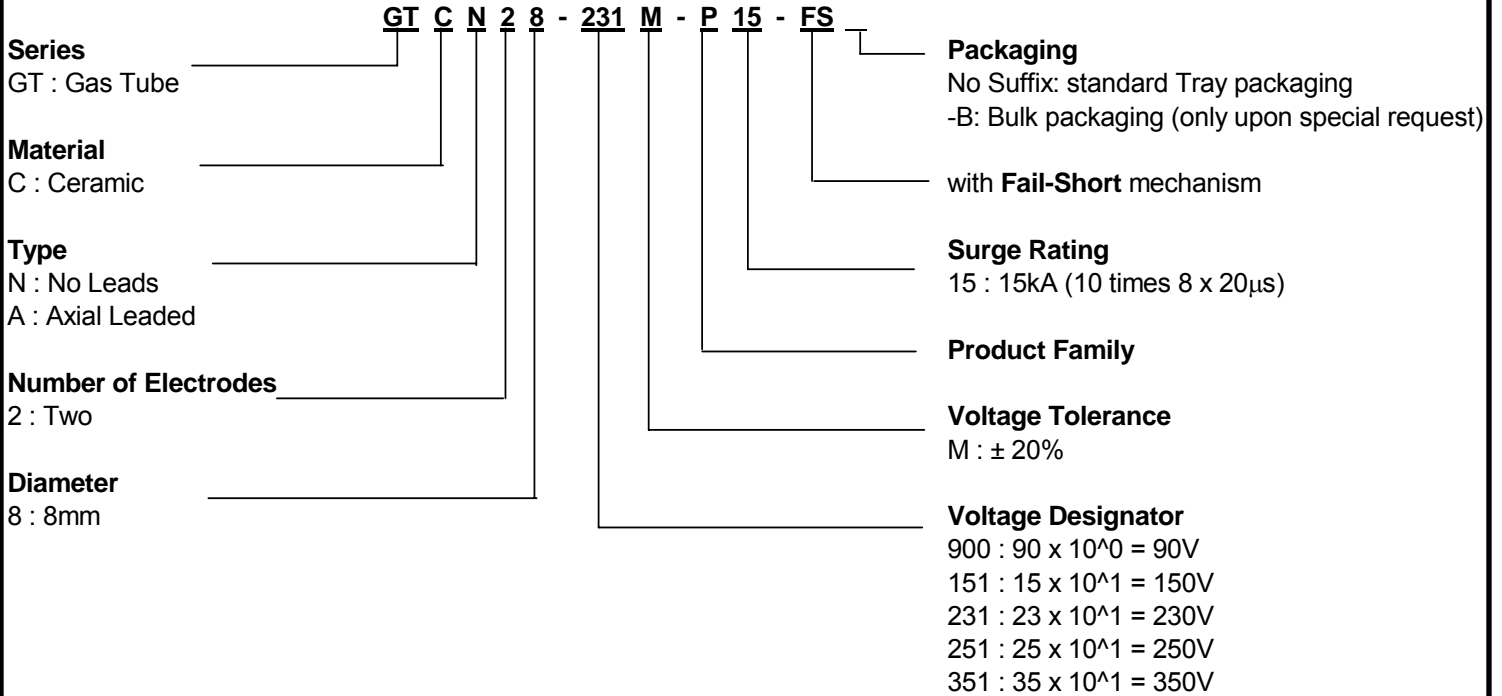
Raychem Circuit Protection Products

PRODUCT: GTCx28-xxxx-P15

DOCUMENT: SCD 25820
REV LETTER: C
REV DATE: MAY 25, 2007
PAGE NO.: 2 OF 5

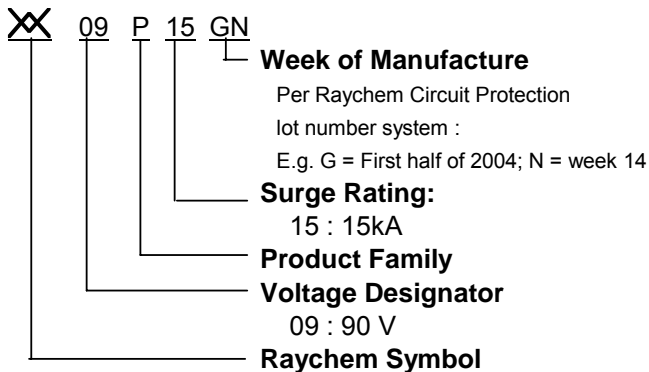
PART NUMBERING

EXAMPLE:



DEVICE MARKING

EXAMPLE : GTCN28-900M-P15



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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



DEVICE RATINGS AND CHARACTERISTICS

Part Number	DC Sparkover Voltage	Impulse Sparkover Voltage		Insulation Resistance	Capacitance	DC Holdover Voltage	Impulse Life	Impulse Discharge Current 8/20µs		AC Discharge Current, 50Hz	
	@ 100V/s	@ 100V/µs	@ 1kV/µs	@ 100V _{DC}	@ 1MHz	Per ITUK.12	10/1000µs, 100A	Single Hit	Repeat 10 times (5 times each polarity)	Single Hit, 9 Cycles	Repeat 10 times (1s interval)
GTCN28-900M-P15 GTCA28-900M-P15	72 - 108V	≤ 450V	≤ 500V	≥ 10,000MΩ ¹	≤ 1.5pF	≤ 52V	300 times	20kA	15kA	90A	20A
GTCN28-151M-P15 GTCA28-151M-P15	120 - 180V	≤ 500V	≤ 600V	≥ 10,000MΩ ¹	≤ 1.5pF	≤ 52V	300 times	20kA	15kA	90A	20A
GTCN28-231M-P15 GTCN28-231M-P15-FS GTCA28-231M-P15	184 - 280V	≤ 600V	≤ 700V	≥ 10,000MΩ	≤ 1.5pF ≤ 3.5pF ≤ 1.5pF	≤ 52V	300 times	20kA	15kA	90A	20A
GTCN28-251M-P15 GTCA28-251M-P15	200 - 300V	≤ 600V	≤ 700V	≥ 10,000MΩ	≤ 1.5pF	≤ 52V	300 times	20kA	15kA	90A	20A
GTCN28-351M-P15 GTCA28-351M-P15	280 - 420V	≤ 700V	≤ 800V	≥ 10,000MΩ	≤ 1.5pF	≤ 52V	300 times	20kA	15kA	90A	20A

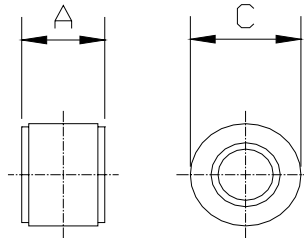
Note 1. Insulation Resistance measured at 50 V_{DC}.

**Gas Discharge Tube
High Surge Two Electrode Series
Overvoltage Protection Device**

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DIMENSIONS

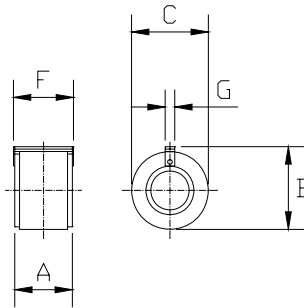
No Leads, no Fail-Short mechanism
(GTCN28-xxxx-P15)



	A		C	
	MIN	MAX	MIN	MAX
mm:	5.8	6.2	7.8	8.2
in*:	0.23	0.24	0.31	0.32

*Rounded off approximation

No Leads, with Fail-Short mechanism
(GTCN28-231M-P15-FS)

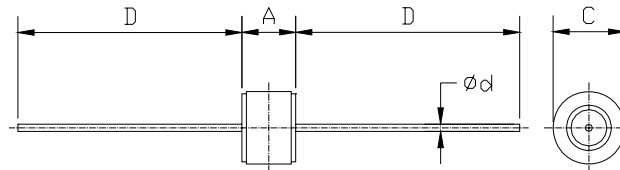


Fail-Short Operation Time
50Hz 0.7A : 210s
2.0A : 60s
7.0A: <1s

	A		B		C		F		G	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
mm:	5.8	6.2	--	9.5	7.8	8.2	--	7.0	--	3.0
in*:	0.23	0.24	--	0.37	0.31	0.32	--	0.28	--	0.12

*Rounded off approximation

Axial Leads, no Fail-Short mechanism
(GTCA28-xxxx-P15)



	A		C		D		Ød
	MIN	MAX	MIN	MAX	MIN	MAX	NOM
mm:	5.8	6.2	7.8	8.2	28.0	32.0	1.0
in*:	0.23	0.24	0.31	0.32	1.10	1.26	0.04

*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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