

Gas Discharge Tube

GTCx28-xxxx-P05

Standard Two Electrode Series

Document: SCD 25819
Status: Released
Rev. B Date: August 6, 2004

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

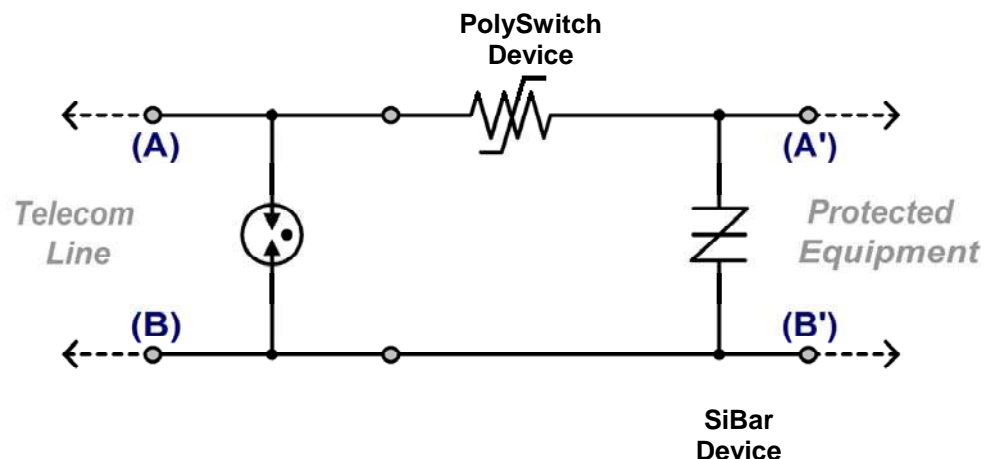
APPLICATIONS

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

SYMBOL



TYPICAL APPLICATION SCHEMATIC



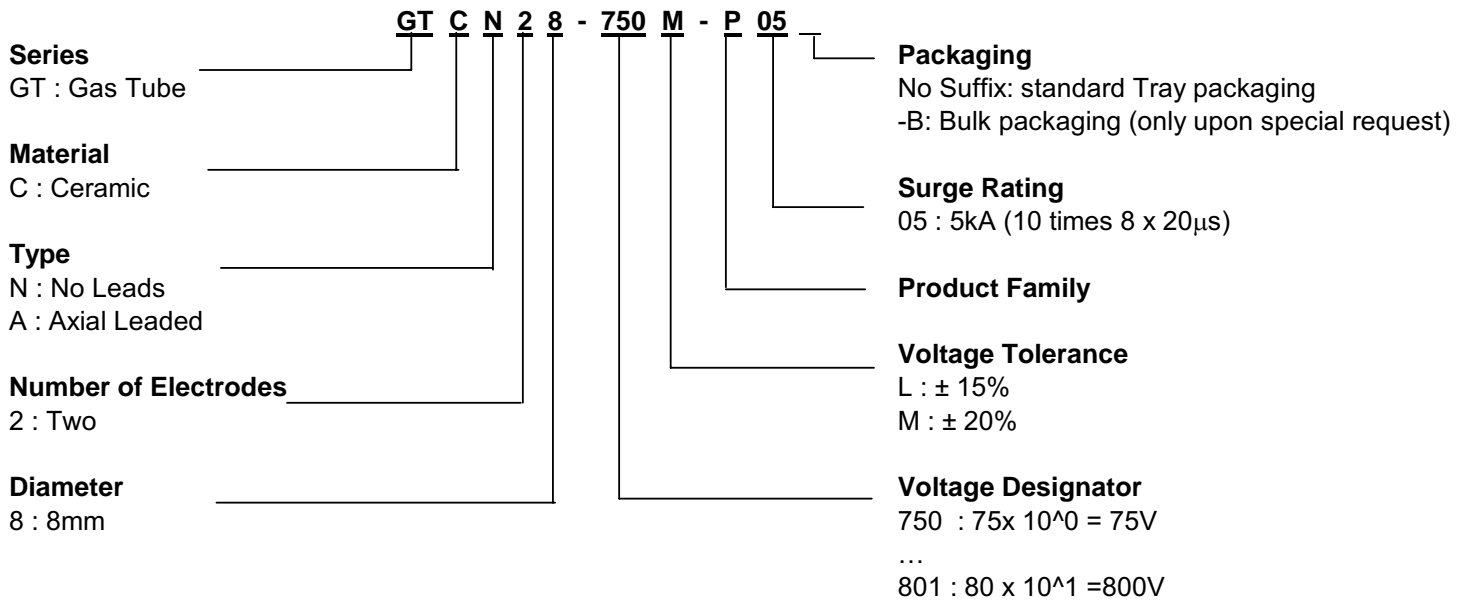
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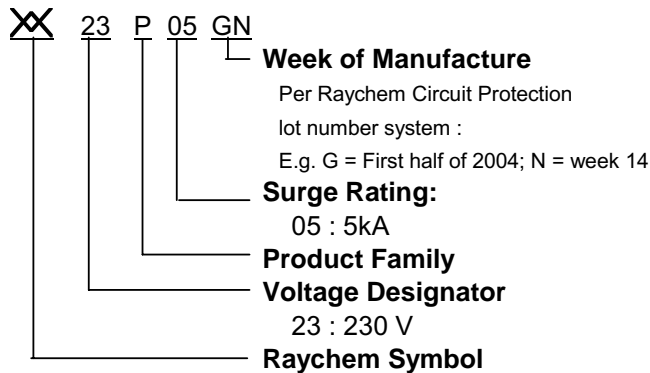
PART NUMBERING

EXAMPLE:



DEVICE MARKING

EXAMPLE : GTC28-231L-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



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}.

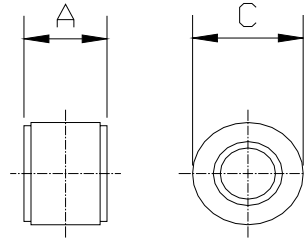
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DIMENSIONS

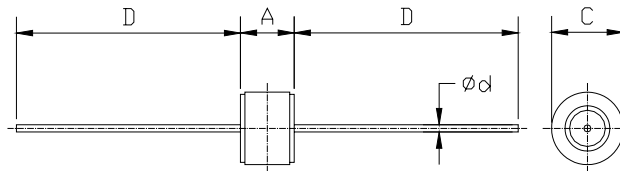
No Leads (GTCN28-xxxx-P05)



| | 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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