

Raychem Circuit Protection 6mm 3Pole GDTs (ceramic gas discharge tubes), are commonly used to help protect sensitive telecom equipment such as communication lines, signal lines and data transmission lines from damage caused by transient surge voltages that typically result from lightning strikes and equipment switching operations.

Raychem Circuit Protection GDTs offer a high level of surge protection, low capacitance and a broad array of breakover voltage levels, making them suitable for applications such as MDF (Main Distribution Frame) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge protection on power lines. Raychem Circuit Protection GDTs can help equipment meet the most stringent regulatory standards.



Benefits:

- Compact, small form factor suitable for efficient assembly
- Helps provide overvoltage fault protection against high energy surges
- Suitable for high-frequency applications

Features:

- 3Pole, 6mm devices
- Broad voltage range from 75V-600V
- Various form factors: surface-mount, leaded, no leads
- Optional fail-short mechanism on some devices
- Low capacitance and insertion loss
- Crowbar overvoltage protection
- UL 497B recognized
- RoHS compliant
- Devices tested per ITU K.12 recommendations
- Non-radioactive materials

Applications:

- Telecommunications
 - MDF modules, xDSL equipment, RF system protection, antenna, base station
- Industrial and consumer electronics, such as
 - Surge protectors
 - Alarm system

GTCX36-XXXM-R05 Series

Device Voltage Ratings and Part Marking

| Part Number | DC Sparkover | Impulse Sparkover | | DC Holdover Voltage | On-State Voltage |
|-----------------|----------------------------------|--------------------|---------------------|---------------------------------|--------------------------|
| | @100V/s ±20% Tolerance (V) | @100 V μ s (V) | @1000 V μ s (V) | Per ITU K.12 (<150ms) (V) | Nominal (@ 1A) (V) |
| GTCX36-750M-R05 | 75 | 450 | 550 | <52 | 20 |
| GTCX36-900M-R05 | 90 | 450 | 550 | <52 | 20 |
| GTCX36-141M-R05 | 140 | 500 | 600 | <80 | 20 |
| GTCX36-151M-R05 | 150 | 500 | 600 | <80 | 20 |
| GTCX36-201M-R05 | 200 | 600 | 700 | <135 | 20 |
| GTCX36-231M-R05 | 230 | 600 | 700 | <135 | 20 |
| GTCX36-251M-R05 | 250 | 600 | 700 | <135 | 20 |
| GTCX36-261M-R05 | 260 | 700 | 800 | <135 | 20 |
| GTCX36-301M-R05 | 300 | 800 | 900 | <150 | 20 |
| GTCX36-351M-R05 | 350 | 900 | 1000 | <150 | 20 |
| GTCX36-401M-R05 | 400 | 900 | 1000 | <150 | 20 |
| GTCX36-421M-R05 | 420 | 900 | 1000 | <150 | 20 |
| GTCX36-471M-R05 | 470 | 1050 | 1150 | <150 | 20 |
| GTCX36-501M-R05 | 500 | 1100 | 1200 | <150 | 20 |
| GTCX36-551M-R05 | 550 | 1300 | 1400 | <150 | 20 |
| GTCX36-601M-R05 | 600 | 1300 | 1400 | <150 | 20 |

Device Surge Rating, Capacitance, Insulation Resistance, UL

| Part Number | Impulse Discharge Current | Impulse Life | AC Discharge Current (1sec duration; 10 hits) | Capacitance | Insulation Resistance | UL Rating |
|-----------------|---------------------------|-----------------------------|---|-------------|-----------------------|--------------------|
| | 8x20 μ s 10 hits | 10x1000 μ s 300 hits | @50 Hz | @1Mhz | @100V* | UL497B #E179610 |
| GTCX36-XXXM-R05 | 5kA | 200A | 5Arms | <1pF | 10,000 (M Ω) | All Devices |

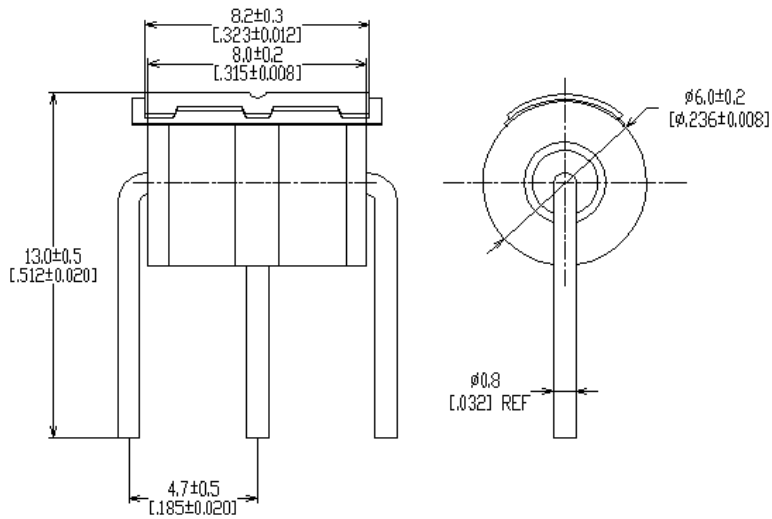
* Devices <=150V measured @ 50V.
 Devices >= 500V measured @ 250V

GTCX36-XXXM-R05 Series

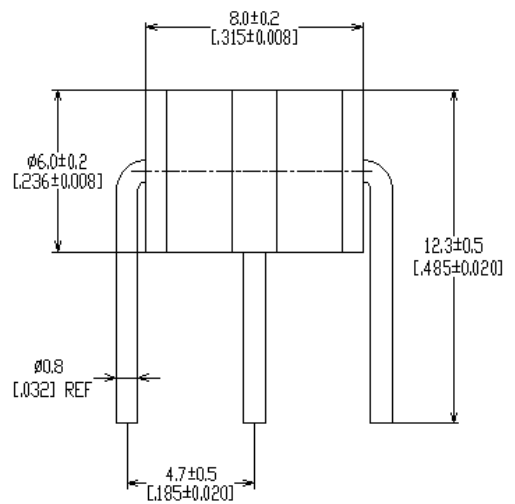
Product Dimensions

DIMENSIONS = MILLIMETERS [INCHES]

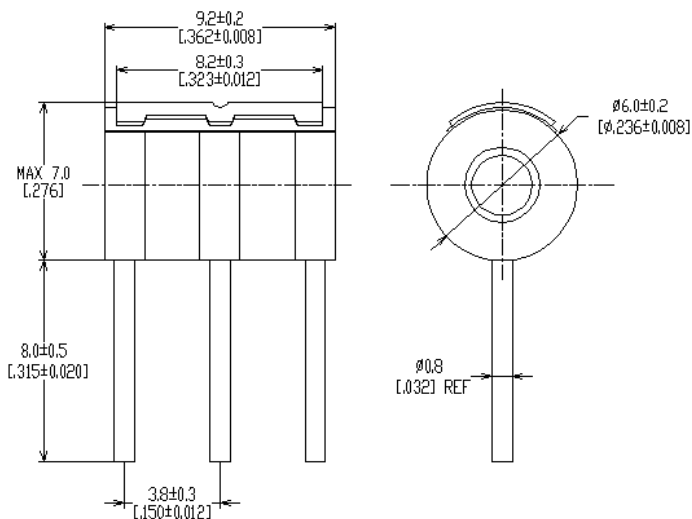
Axial Leaded with- FT (GTCA36-XXXM-R05-FT)



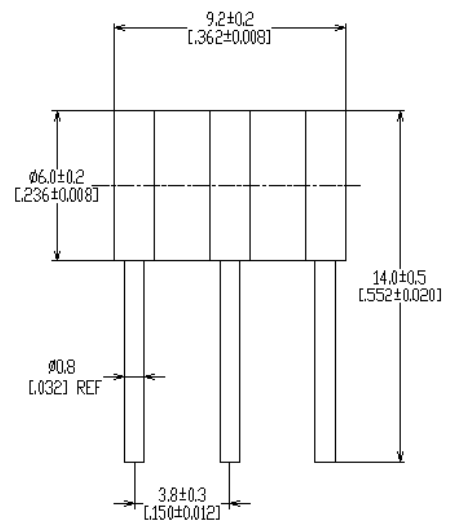
Axial Leaded (GTCA36-XXXM-R05)



Radial Leaded with- FT (GTCR36-XXXM-R05-FT)

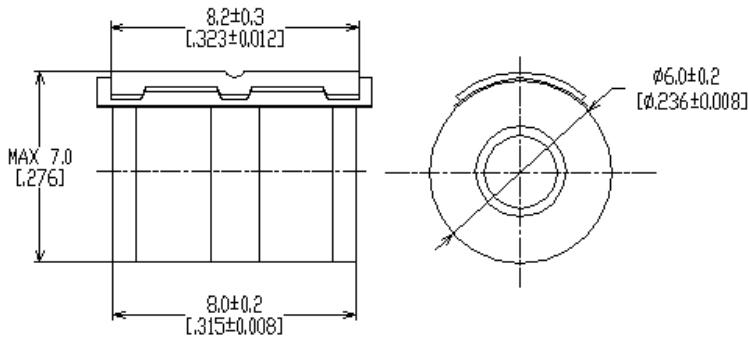


Radial Leaded (GTCR36-XXXM-R05)

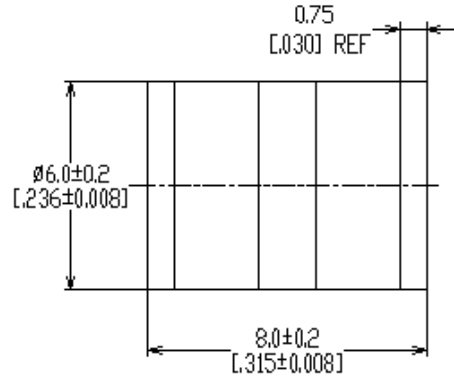


GTCX36-XXXM-R05 Series

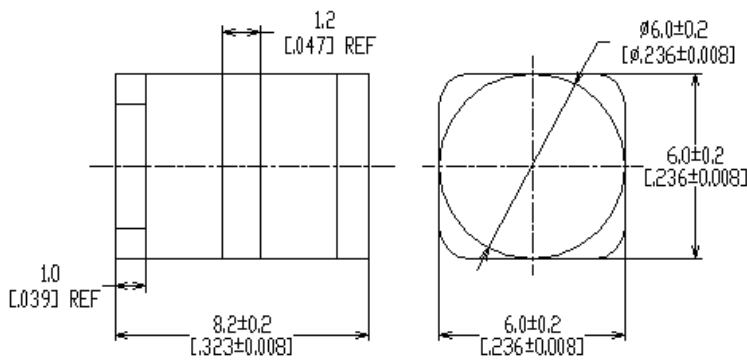
No Leads with- FT (GTCN36-XXXM-R05-FT)



No Leads (GTCN36-XXXM-R05)



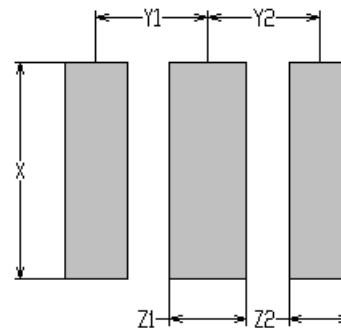
Surface-mount (GTCS36-XXXM-R05)



GTCX36-XXXM-R05 Series

Pad Layout – Surface-mount Devices (GTCS36-XXXM-R05)

| | X | Y1 | Y2 | Z1 | Z2 |
|------|---------|---------|---------|---------|---------|
| | NOM | NOM | NOM | NOM | NOM |
| mm: | 7.0 | 3.6 | 3.6 | 2.5 | 2.0 |
| in*: | (0.276) | (0.142) | (0.142) | (0.098) | (0.079) |



General Characteristics

No Radioactive Material

Storage Temperature: -40°C to +90°C

Operating Temperature: -40°C to +90°C

Body: Nickel Plated

Leads: Surface-mount, Radial and Axial Devices: Tin Plated

Devices with no leads: Nickel Plated

Soldering Notes: Devices with no leads: non-solderable; suitable for insertion into a magazine clip

Materials Information

RoHS Compliant

ELV Compliant

Directive 2002/95/EC
Compliant

Directive 2000/53/EC
Compliant

Packaging Information

| Part Description | Tray / Reel | Standard Package |
|---|---------------|------------------|
| No Leaded: GTCN36-XXXM-R05 | 100pcs (Tray) | 2,500pcs |
| With Leads: GTCA36-XXXM-R50/GTCR36-XXXM-R05 | 100pcs (Tray) | 1,000pcs |
| Surface-mount: GTCS36-XXXM-R05 | 100pcs (Tray) | 2,500pcs |
| Surface-mount (T&R): GTCS36-XXXM-R05-2 | 750pcs | 6000pcs |

GTCX36-XXXM-R05 Series

Part Numbering System

Example Part Number: GTCX36-351M-R05-FT

| | |
|-------|--|
| GT = | Gas Tube |
| C = | Ceramic |
| X = | Lead Configuration: N = No leads; A = Axial Leads; S = Surface-mount; R = Radial Leads |
| 3 = | 3 Electrode device |
| 6 = | 6mm Diameter |
| 351 = | DC Spark Over Voltage of 350V (at 100V/s) |
| M = | Tolerance of 20% on DC Spark Over Voltage |
| R = | Product Family Designator |
| 05 = | Surge rating: 8x20 μ s 5kA 10 times |
| FT = | With Fail-Short mechanism |

Part Marking Reference

Example Part Marking: \times 35 R05 GN

| | |
|------------|--|
| \times = | Manufacture Mark |
| 35 = | Voltage Designator (35 = 350V) |
| R05 = | Product Family Designator + Surge Current 5kA (8x20 μ s 10 hits) |
| GN = | Year and Week of Manufacture |