

TE 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.

TE 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-R10 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 $\mu$ s (V)	@1000 V $\mu$ s (V)	Per ITU K.12 (<150ms) (V)	Nominal (@ 1A) (V)
GTCX36-750M-R10	75	450	550	<52	20
GTCX36-900M-R10	90	450	550	<52	20
GTCX36-141M-R10	140	500	600	<80	20
GTCX36-151M-R10	150	500	600	<80	20
GTCX36-201M-R10	200	600	700	<135	20
GTCX36-231M-R10	230	600	700	<135	20
GTCX36-251M-R10	250	600	700	<135	20
GTCX36-261M-R10	260	700	800	<135	20
GTCX36-301M-R10	300	800	900	<150	20
GTCX36-351M-R10	350	900	1000	<150	20
GTCX36-401M-R10	400	900	1000	<150	20
GTCX36-421M-R10	420	900	1000	<150	20
GTCX36-471M-R10	470	1050	1150	<150	20
GTCX36-501M-R10	500	1100	1200	<150	20
GTCX36-551M-R10	550	1300	1400	<150	20
GTCX36-601M-R10	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 $\mu$ s 10 hits	10x1000 $\mu$ s 300 hits	@50 Hz	@1Mhz	@100V*	UL497B #E179610
GTCX36-XXXM-R10	10kA	200A	10Arms	<1pF	10,000 (M $\Omega$ )	All Devices

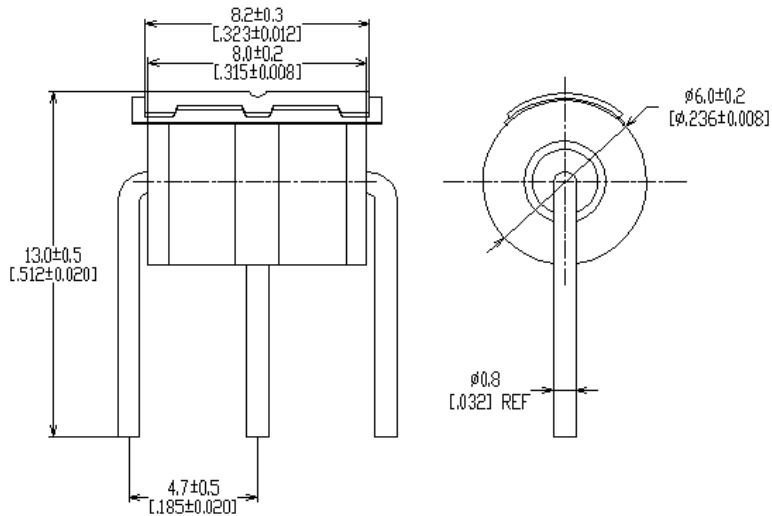
\* Devices <=150V measured @ 50V.  
 Devices >= 500V measured @ 250V

## GTCX36-XXXM-R10 Series

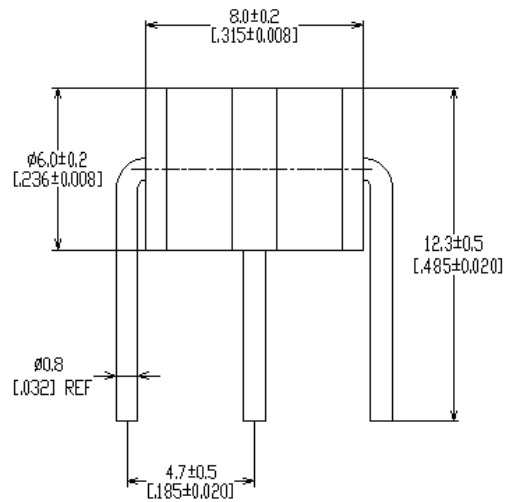
### Product Dimensions

DIMENSIONS = MILLIMETERS [INCHES]

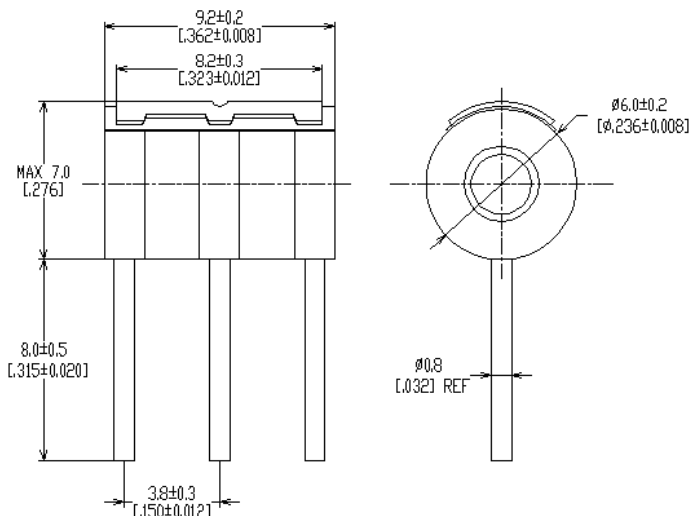
**Axial Leaded with- FT (GTCA36-XXXM-R10-FT)**



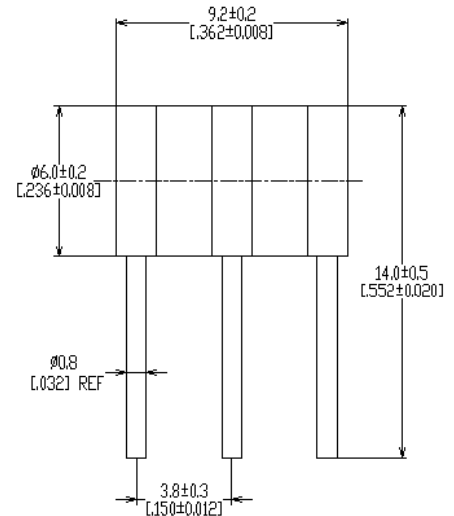
**Axial Leaded (GTCA36-XXXM-R10)**



**Radial Leaded with- FT (GTCR36-XXXM-R10-FT)**

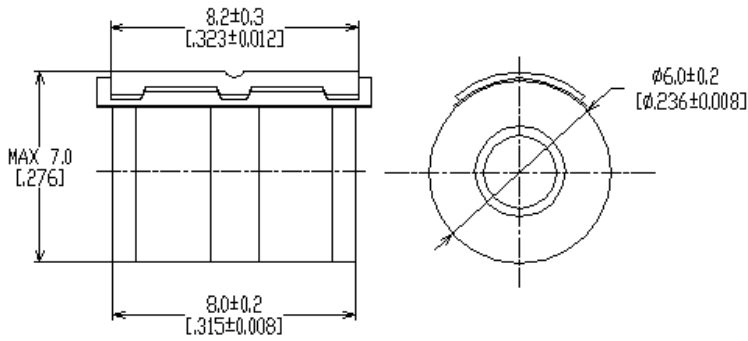


**Radial Leaded (GTCR36-XXXM-R10)**

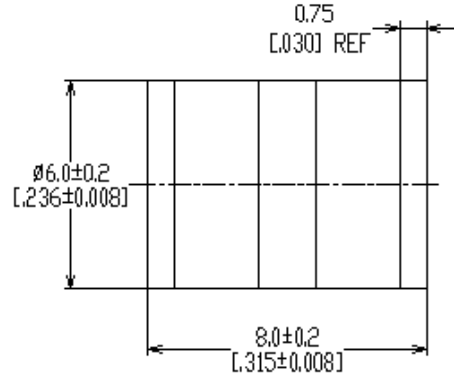


## GTCX36-XXXM-R10 Series

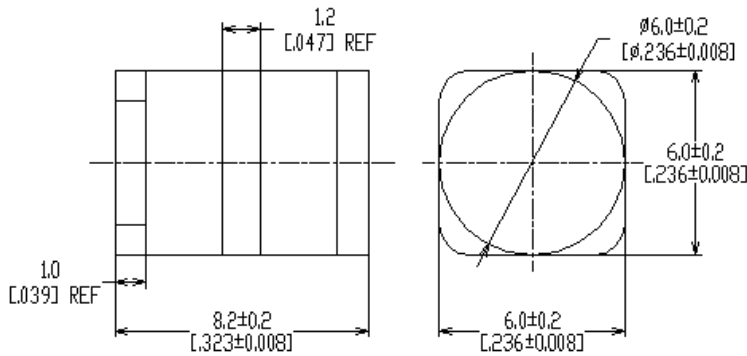
### No Leads with- FT (GTCN36-XXXM-R10-FT)



### No Leads (GTCN36-XXXM-R10)

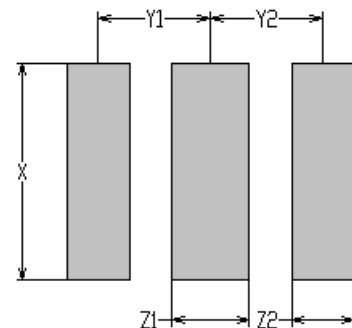


### Surface-mount (GTCS36-XXXM-R10)



### Pad Layout – Surface-mount Devices (GTCS36-XXXM-R10)

	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)



## GTCX36-XXXM-R10 Series

### 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-R10	100pcs (Tray)	2,500pcs
With Leads: GTCA36-XXXM-R10/GTCR36-XXXM-R10	100pcs (Tray)	1,000pcs
Surface-mount: GTCS36-XXXM-R10	100pcs (Tray)	2,500pcs
Surface-mount (T&R): GTCS36-XXXM-R10-2	750pcs	6000pcs

### Part Numbering System

#### Example Part Number: GTCX36-351M-R10-FT

GT =	Gas Tube
C =	Ceramic
X =	Lead Configuration: <b>N</b> = No leads; <b>A</b> = Axial Leads; <b>S</b> = Surface-mount; <b>R</b> = 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
10 =	Surge rating: 8x20µs 10kA 10 times
FT =	With Fail-Short mechanism

## GTCX36-XXXM-R10 Series

### Part Marking Reference

#### Example Part Marking: **XX 35 R10 GN**

- XX** = Manufacture Mark
- 35** = Voltage Designator (35 = 350V)
- R10** = Product Family Designator + Surge Current 10kA (8x20µs 10 hits)
- GN** = Year and Week of Manufacture



308 Constitution Drive, MS R21/2A  
Menlo Park, CA USA 94025-1164

Tel (800) 227-7040  
(650) 361-6 900  
FAX (650) 361-2508

[www.circuitprotection.com](http://www.circuitprotection.com)  
[www.circuitprotection.com.hk](http://www.circuitprotection.com.hk) (Chinese)  
[www.circuitprotection.jp](http://www.circuitprotection.jp) (Japanese)

TE Connectivity, TE Connectivity (Logo) and TE (Logo) are trademarks.

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Tyco Electronics Corporation and/or its Affiliates in the TE Connectivity Ltd. family of companies ("TE") reserves the right to change or update, without notice, any information contained in this publication; to change, without notice, the design, construction, processing, or specification of any product; and to discontinue or limit production or distribution of any product. This publication supersedes and replaces all information previously supplied. Without expressed or written consent by an officer of TE, TE does not authorize the use of any of its products as components in nuclear facility applications, aerospace, or in critical life support devices or systems. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. TE only obligations are those in the TE Standard Terms and Conditions of Sale and in no case will TE be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.