

Gas Discharge Tubes GTCX38-XXXM-R10 Series

TE Circuit Protection 8mm 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:

- Helps provide overvoltage fault protection against high energy surges
- Suitable for high-frequency applications

Features:

- 3Pole, 8mm 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



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Device Voltage Ratings and Part Marking

Part Number	DC Sparkover Impulse Sparkover			DC Holdover Voltage	On-State Voltage	
	@100V/s ±20% Tolerance (V)	@100 Vµs (V)	@1000 Vµs (V)	Per ITU K.12 (<150ms) (V)	Nominal (@ 1A) (V)	
GTCX38-750M-R10	75	450	550	<52	20	
GTCX38-900M-R10	90	450	550	<52	20	
GTCX38-141M-R10	140	500	600	<80	20	
GTCX38-151M-R10	150	500	600	<80	20	
GTCX38-201M-R10	200	600	700	<135	20	
GTCX38-231M-R10	230	600	700	<135	20	
GTCX38-251M-R10	250	600	700	<135	20	
GTCX38-261M-R10	260	700	800	<135	20	
GTCX38-301M-R10	300	800	900	<150	20	
GTCX38-351M-R10	350	900	1000	<150	20	
GTCX38-401M-R10	400	900	1000	<150	20	
GTCX38-421M-R10	420	900	1000	<150	20	
GTCX38-471M-R10	470	1050	1150	<150	20	
GTCX38-501M-R10	500	1100	1200	<150	20	
GTCX38-551M-R10	550	1300	1400	<150	20	
GTCX38-601M-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
	8x20µs 10 hits	10x1000µs 300 hits	@50 Hz	@1Mhz	@100V*	UL497B #E179610
GTCX38-XXXM-R10	10kA	200A	10Arms	<1pF	10,000 (MΩ)	All Devices

* Devices <=150V measured @ 50V.

Devices >= 500V measured @ 250V



(9,015) (31550,091

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Product Dimensions

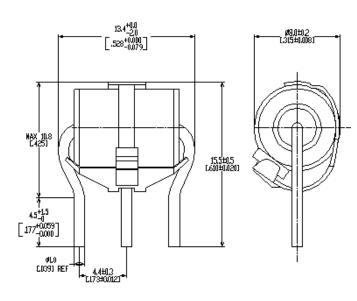
DIMENSIONS = MILLIMETERS [INCHES]

13.4^{+0,0} [.528^{+0,000}]

F

Axial Leaded with- FS (GTCA38-XXXM-R10-FS2)

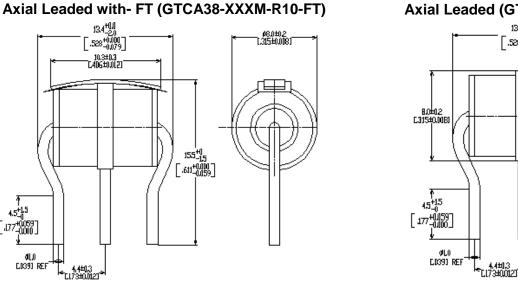
Axial Leaded with-FS (GTCA38-XXXM-R10-FS)



155+0 [.សរ⁺⁰ររំឆ្លែ]

1.4403 C173±1.0021 Axial Leaded (GTCA38-XXXM-R10)

18.0±0.5 [709±0.020]

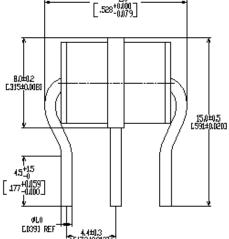


NAX 135 14893

45+15 [.177+0059]

ØLD Loggi ref

13.4^{40,0}



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13.4 30

[.528+00079]

10.3±0.3 C406±0.0121

4.5<u>+1.5</u>

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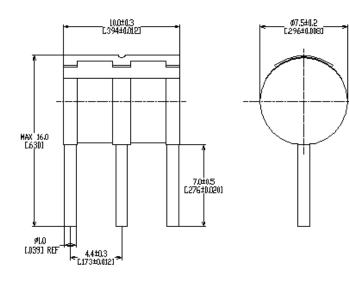
L0391 REF

Document: SCD27381 Status: Released Rev: C Date: MAY 18, 2011

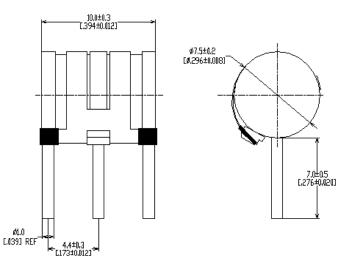


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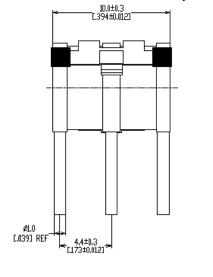
Radial Leaded with- FT (GTCR38-XXXM-R10-FT)

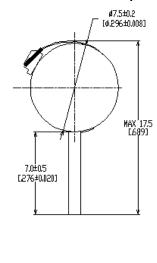


Radial Leaded with-FS (GTCR38-XXXM-R10-FS2)

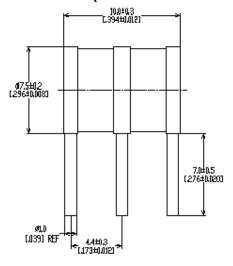


Radial Leaded with-FS (GTCR38-XXXM-R10-FS)





Radial Leaded (GTCR38-XXXM-R10)

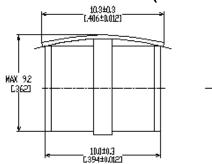


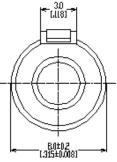
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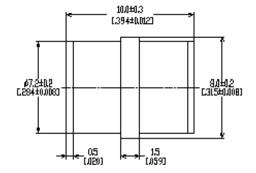
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No Leads with-FT (GTCN38-XXXM-R10-FT)

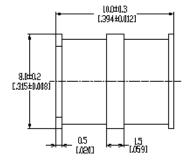


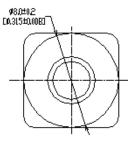


No Leads (GTCN38-XXXM-R10)



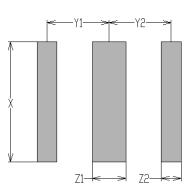
Surface-mount (GTCS38-XXXM-R10)





Pad Layout – Surface-mount Devices (GTCS38-XXXM-R10)

	Х	Y1	Y2	Z1	Z2
	NOM	NOM	NOM	NOM	NOM
mm:	9.0	4.65	4.65	2.5	1.5
in*:	(0.354)	(0.183)	(0.183)	(0.098)	(0.059)





GTCX38-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

Compliant

RoHS Compliant

ELV Compliant



Packaging Information

Part Description

No Leaded:	GTCN38-XXXM-R10(-FT)
With Leads:	GTCA38-XXXM-R10(-FT/-FS(2))
	GTCR38-XXXM-R10(-FT/-FS(2))
Surface-mount	: GTCS38-XXXM-R10(-FT)
Surface-mount	(T&R): GTCS38-XXXM-R10-(FT)-2

Tray / Reel

Standard Package

100pcs (Tray)	1,000pcs
100pcs (Tray)	1,000pcs
100pcs (Tray)	1,000pcs
500pcs (Reel)	2,500pcs

Part Numbering System

Example Part Number: GTCX38-351M-R10-FT/FS/ FS2

GT = C = X =	Gas Tube Ceramic Lead Configuration: N = No leads; A = Axial Leads; S = Surface-mount; T = T Configuration Leads; R= Radial Leads
3 = 8 = 351 = M = R = 10 = FT/FS/FS2 =	3 Electrode device 8mm Diameter DC Spark Over Voltage of 350V (at 100V/s) Tolerance of 20% on DC Spark Over Voltage Product Family Designator Surge rating: 8x20µs 10kA 10 times With Fail-Short mechanism (FT=plastic fail short mechanism on top; FS=solder pellet fail short mechanism on top; FS2=solder pellet fail short mechanism on bottom)



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Part Marking Reference

Example Part Marking: X 35 R10 GN

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



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