

Gas Discharge Tubes GTCX28-XXXM-R20 Series

TE Circuit Protection 8mm 2Pole 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:

- 2Pole, 8mm devices
- Broad voltage range from 75V-350V
- Various form factors: surface mount, axial leads, no leads
- · Low capacitance and insertion loss
- 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



GTCX28-XXXM-R20 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/µs (V)	@1000 V/μs (V)	Per ITU K.12 (<150ms) (V)	Nominal (@ 1A) (V)
GTCX28-750M-R20	75	450	550	<52	20
GTCX28-900M-R20	90	450	550	<52	20
GTCX28-141M-R20	140	500	600	<80	20
GTCX28-151M-R20	150	500	600	<80	20
GTCX28-201M-R20	200	600	700	<135	20
GTCX28-231M-R20	230	600	700	<135	20
GTCX28-251M-R20	250	600	700	<135	20
GTCX28-261M-R20	260	700	800	<135	20
GTCX28-301M-R20	300	800	900	<150	20
GTCX28-351M-R20	350	900	1000	<150	20

Note:X options: S: Surface-mount; A: Axial-leaded; N: No-leaded

Part Marking: XX = lot code

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
GTCX28-XXXM-R20	20kA	100A	20Arms	<1.5pF	10,000 (MΩ)	All Devices

^{*} Devices <=150V measured @ 50V;

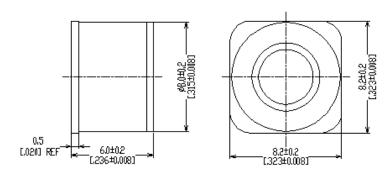


GTCX28-XXXM-R20 Series

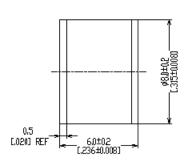
Product Dimensions

DIMENSIONS = MILLIMETERS [INCHES]

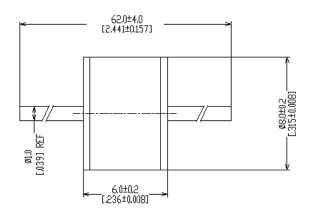
Surface-mount (GTCS28-XXXM-R20)



No Leads (GTCN28-XXXM-R20)

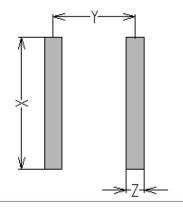


Axial Leads (GTCA28-XXXM-R20)



Pad Layout - Surface- mount Devices (GTCS28-XXXM-R20)

	X	Y	Z
	NOM	NOM	NOM
mm:	9.0	5.6	1.2
in*:	(0.354)	(0.220)	(0.047)



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GTCX28-XXXM-R20 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, Axial Devices: Tin Plated

Devices with No Leads: Nickel Plated

Soldering Note: Devices with no leads are non-solderable; meant for insertion into magazine clips

Packaging Information

Part Description		Tray / Reel	Standard Package
No Leads:	GTCN28-XXXM-R20	100pcs	2,000pcs
Axial Leads:	GTCA28-XXXM-R20	100pcs	1,000pcs
Surface-mount: GTCS28-XXXM-R20		100pcs	2,000pcs
Tape & Reel SMD part: GTCS28-XXXM-R20-2		500pcs	2500pcs

Part Numbering System

Example Part Number: GTCX28-231M-R20		
GT =	Gas Tube	
C =	Ceramic	
X =	Lead Configuration: N= No leads; A= Axial Leads; S= Surface-mount	
2 =	2 Electrode device	
8 =	8mm Diameter	
231 =	DC Spark Over Voltage of 230V (at 100V/s)	
M =	Tolerance of 20% on DC Spark Over Voltage	
R =	Product Family Designator	
20 =	Surge rating: 8x20µs 20kA 10 times	



GTCX28-XXXM-R20 Series

Part Marking Reference

Example Part Marking: × 23 R20 GN		
X =	Manufacture Mark	
23 =	Voltage Designator (23 = 230V)	
R20 =	Product Family Designator + Surge Current 20kA (8x20µs 10 hits)	
GN =	Year and Week of Manufacture	



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