Littelfuse
Expertise Applied | Answers Delivered

Gas Discharge Tubes
GTCC23-XXXM-R01-2 Series

Littelfuse Circuit Protection 3mm 2Pole Chip type 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.

Littelfuse Circuit Protection 3mm Chip type GDTs offer excellent surge protection characteristics, low capacitance and a broad array of breakover voltage levels, making them suitable for applications such as high data-rate telecom communication network protection (e.g. ADSL, VDSL).

Benefits:

- Compact, small form factor suitable for efficient assembly
- Suitable for high-frequency applications

Features:

- 2Poles, 3mm devices
- Broad voltage range from 75V-400V
- Form factor: surface mount
- Low capacitance and insertion loss
- Referring to ITUT K.20 and ITUT K.21
- UL 497B recognized
- RoHS compliant
- Devices tested per ITU K.12 recommendations
- Non-radioactive materials

Applications:

- Telecommunications, RF system protection, CATV Modem, Hub protection, Security Systems, Data acquisition

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GTCC23-XXXM-R01-2 Series

Device Voltage Ratings

Part Number	DC Sparkover	Impulse Sparkover Voltage
	@100V/s ±20% Tolerance (V)	@1000 V/µs (V)
GTCC23-750M-R01-2*	75	600
GTCC23-900M-R01-2	90	600
GTCC23-141M-R01-2	140	600
GTCC23-151M-R01-2	150	600
GTCC23-201M-R01-2	200	700
GTCC23-231M-R01-2	230	700
GTCC23-301M-R01-2	300	900
GTCC23-351M-R01-2	350	1000
GTCC23-401M-R01-2	400	1000
GTCC23-421M-R01-2	420	1000
GTCC23-501M-R01-2	500	1200

*DCSO 60~105

Part Marking : Not Applicable

Device Surge Rating, Capacitance, Insulation Resistance, UL

Part Number	Insulation Resistance	Capacitance	Impulse Discharge Current 8/20µs		Impulse Withstanding Voltage 10/700µs	UL Rating
	@100V_{DC}*	@1Mhz	10 hits (5hits each polarity)	300 hits (150hits each polarity)	10 hits (5 times each polarity)**	UL497B #E179610
GTCC23-xxxM-R01-2	≥ 1,000 (MΩ)	<0.5pF	1kA	100A	4kV	All Devices

* Devices <=150V measured @ 50Vdc
** Effective output impedance: 40ohms

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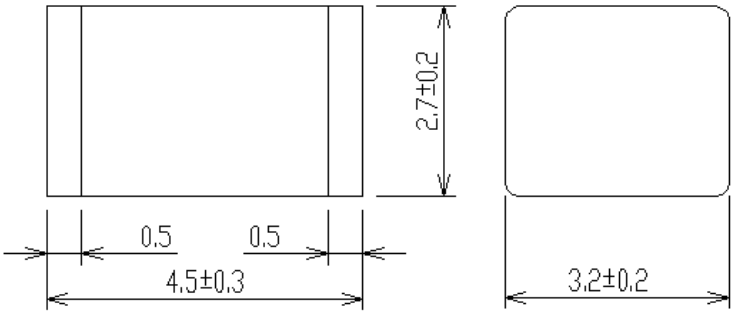
Product Dimensions

DIMENSIONS = MILLIMETERS [INCHES]

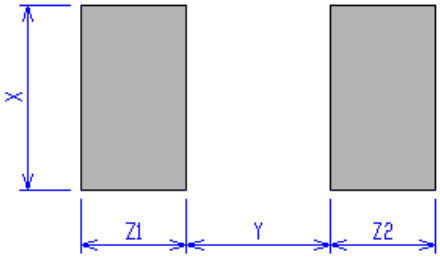
Surface-mount (GTCC23-XXXM-R01-2)



Pad Layout – Surface- mount Devices (GTCC23-XXXM-R01-2)

	X	Y	Z1	Z2
	NOM	NOM	NOM	NOM
mm:	3.5	2.7	2.0	2.0
in*:	(0.138)	(0.106)	(0.079)	(0.079)

*Rounded off approximation



General Characteristics

No Radioactive Material
Storage Temperature: -40ºC to +90ºC
Operating Temperature: -40ºC to +90ºC
Electrode: Tin Plated

Materials Information

ROHS Compliant — Directive 2002/95/EC Compliant

ELV Compliant — Directive 2000/53/EC Compliant

Pb-Free

Halogen Free*

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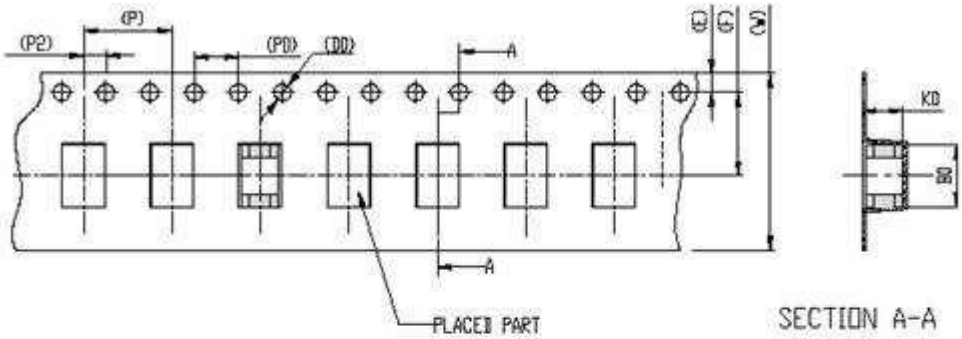
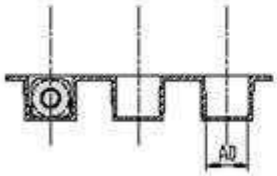
GTCC23-XXXM-R01-2 Series

Packaging Information

Part Description	Reel	Standard Package
Surface-mount: GTCC23-XXXM-R01-2	2000pcs (Reel)	16,000pcs

Packaging Information





DIMENSION IN MM							
W	16.00±0.30	P	8.00±0.10	A0	3.40±0.10	B0	5.00±0.10
S		P0	4.00±0.10				
E	1.75±0.10	P2	2.00±0.10				
F	7.50±0.10	D0	$\phi 1.50^{+0.10}_{-0}$	K0	3.30±0.10		
T	0.35±0.05	D1				COLOR : B	

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Part Numbering System

Example Part Number: GTCC23-351M-R01-2

GT =	Gas Tube
C =	Ceramic
C =	Lead Configuration: **C**= Chip Type
2 =	2 Electrode device
3 =	3mm Diameter
351 =	DC Spark Over Voltage of 350V (at 100V/s)
M =	Tolerance of 20% on DC Spark Over Voltage
R =	Product Family Designator
01 =	Surge rating: 8x20µs 1kA 10 times
-2 =	Tape and Reel Packaging

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