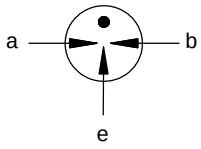
Description

GDT is placed in front of, and in parallel with, sensitive telecom equipment such as power lines, communication lines, signal lines and data transmission lines to help protect them from damage caused by transient surge voltages that may result from lightning strikes and equipment switching operations. These devices do not influence the signal in normal operation. However, in the event of an overvoltage surge, such as a lightning strike, the GDT switches to a low impedance state and diverts the energy away from the sensitive equipment.

Our GDT offer a high level of surge protection, a broad voltage range, low capacitance, and many form factors including new surface mount devices, which makes them suitable for applications such as Main Distribution Frame (MDF) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge protection on power lines. Their low capacitance also results in less signal distortion. When used in a coordinated circuit protection solution with PolySwitch devices, they can help equipment manufacturers meet stringent safety regulatory standards.

Electrical symbol



a = Tip
b = Ring
e = Ground
(center electrode)

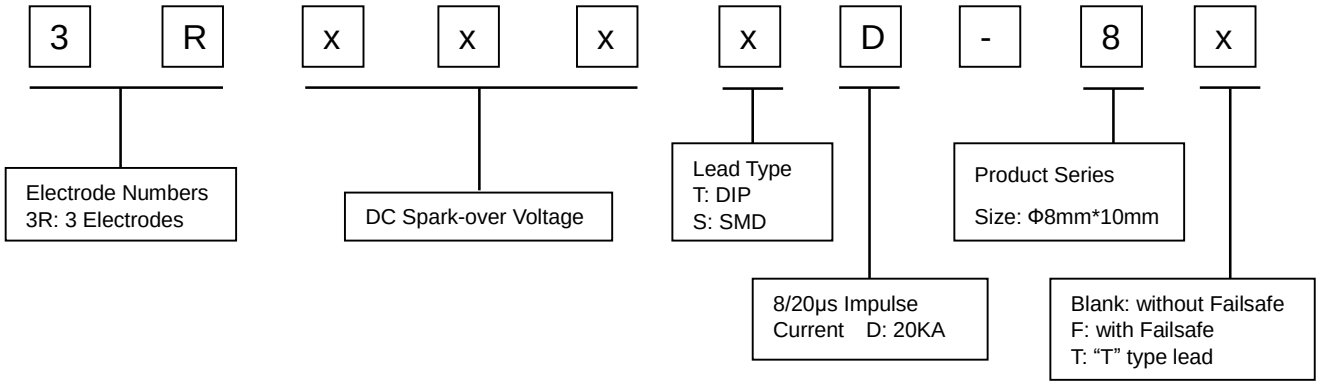
Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- GHz working frequency
- 8/20μs Impulse current capability: 20KA
- Non-Radioactive
- Ultra Low capacitance (<1.5pF)
- High insulation resistance
- Lead-free compliant
- RoHS and REACH compliant
- UL 497B Recognized: E465335
- Size: Φ8mm*10mm
- Storage and operational temperature: -40~+90°C

Applications

- Communication equipment
- CATV equipment
- Data lines
- Power supplies
- Telecom SLIC protection
- Broadband equipment
- ADSL equipment, including ADSL2+
- XDSL equipment
- Satellite and CATV equipment
- Test equipment
- Consumer electronics

Part Number Code



Electrical Characteristics

Part Number				DC Spark-over Voltage [1) 2) 3)] @100V/S	Impulse Spark-over Voltage [3)]		Insulation Resistance [4)]	Capacitance @1MHz	Life Ratings			
					100V/μS	1KV/μS			Impulse Discharge Current @8/20μs [5)]		AC Discharge Current @50Hz 1S [5)]	Impulse Life @10/1000μS 200A [5)]
					Max	Max	Min	Max	Nominal ±5 times	Max 1 time	Nominal 5 times	Min
DIP	SMD	DIP-F	DIP-T	V	V	V	GΩ	pF	KA	KA	A	Times
3R075TD-8	3R075SD-8	3R075TD-8F	3R075TD-8T	75±20%	500	600	1	1.5	20	25	20	300
3R090TD-8	3R090SD-8	3R090TD-8F	3R090TD-8T	90±20%	500	600	1	1.5	20	25	20	300
3R150TD-8	3R150SD-8	3R150TD-8F	3R150TD-8T	150±20%	500	600	1	1.5	20	25	20	300
3R200TD-8	3R200SD-8	3R200TD-8F	3R200TD-8T	200±20%	600	700	1	1.5	20	25	20	300
3R230TD-8	3R230SD-8	3R230TD-8F	3R230TD-8T	230±20%	600	700	1	1.5	20	25	20	300
3R250TD-8	3R250SD-8	3R250TD-8F	3R250TD-8T	250±20%	600	700	1	1.5	20	25	20	300
3R350TD-8	3R350SD-8	3R350TD-8F	3R350TD-8T	350±20%	800	900	1	1.5	20	25	20	300
3R400TD-8	3R400SD-8	3R400TD-8F	3R400TD-8T	400±20%	850	950	1	1.5	20	25	20	300
3R420TD-8	3R420SD-8	3R420TD-8F	3R420TD-8T	420±20%	850	950	1	1.5	20	25	20	300
3R470TD-8	3R470SD-8	3R470TD-8F	3R470TD-8T	470±20%	900	1000	1	1.5	20	25	20	300
3R600TD-8	3R600SD-8	3R600TD-8F	3R600TD-8T	600±20%	1100	1200	1	1.5	20	25	20	300
3R800TD-8	3R800SD-8	3R800TD-8F	3R800TD-8T	800±20%	1400	1500	1	1.5	20	25	20	300

Glow Voltage at 10mA.....	~60V
Arc Voltage at 1A.....	~10V
Glow to Arc transition Current……..	~1A
Operation and storage	-40~+90°C
Climatic category (IEC60068-1)……..	40/90/21
Marking, red negative..……	**xxx Y** xxx -Nominal voltage Y -Year of production
Weight…… .	DIP ~2.10g SMD ~1.85g DIP-F ~2.35g DIP-T ~2.15g
Surface treatment……..……	DIP -Nickel Plated SMD -Matte-tin plated

1) At delivery AQL 0.65 level II, DIN ISO 2859

2) In ionized mode

3) Tip or ring electrode to center electrode

4) Insulation Resistance Measuring Voltage:

75V at DC 25V

90V~150V at DC 50V

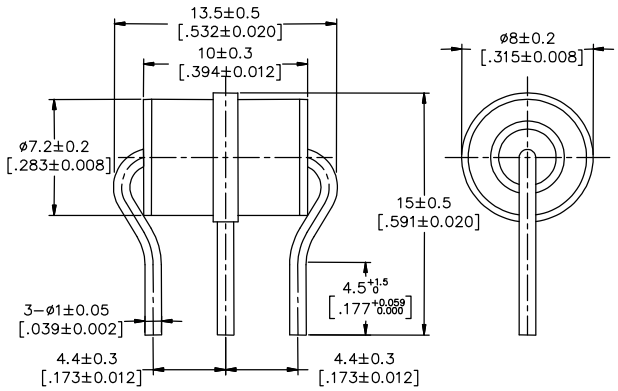
Other at DC 100V

5) Total current through center electrode, half value through tip respectively ring electrode.

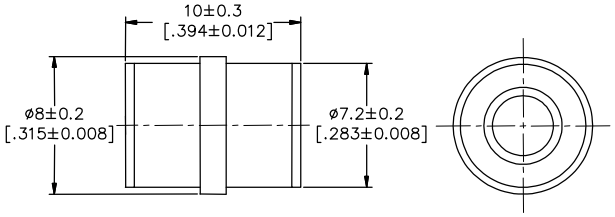
Terms in accordance with ITU-T Rec. K.12, IEC 61643-311, GB/T 9043.

Dimensions (Unit: mm/inch)

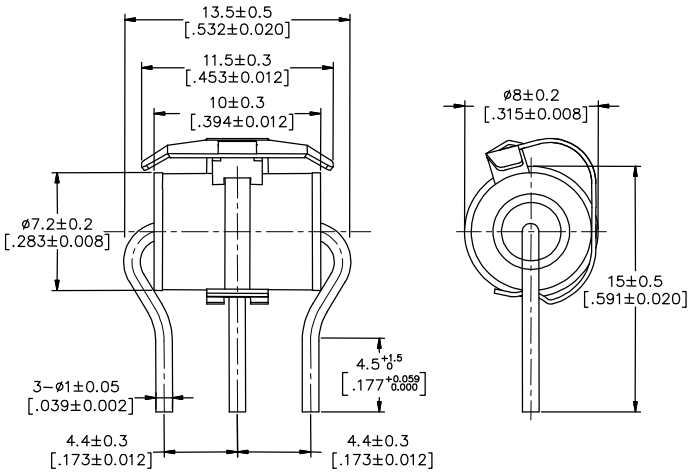
DIP Series (3RxxxTD-8)



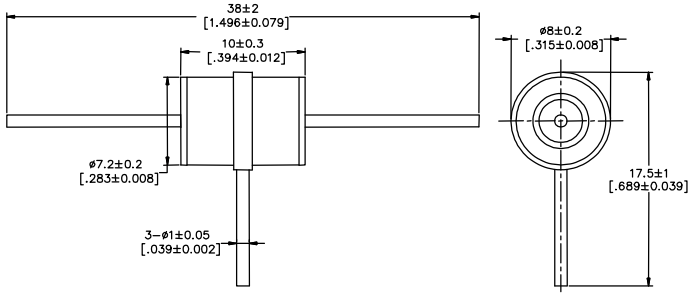
SMD Series (3RxxxSD-8)



DIP-F Series (3RxxxTD-8F)

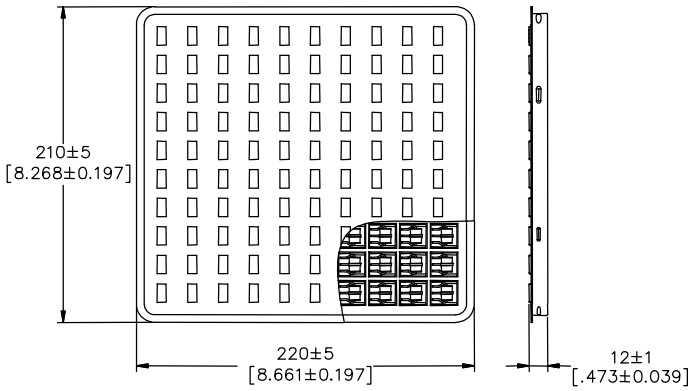


DIP-T Series (3RxxxTD-8T)

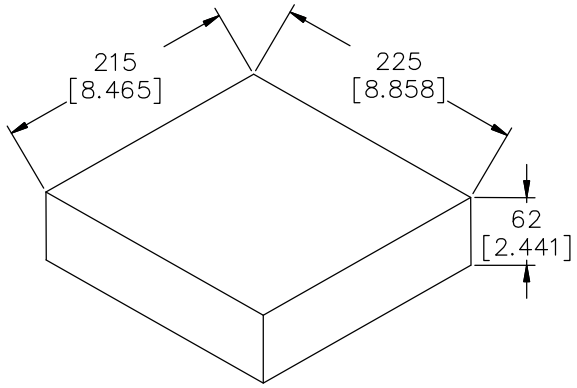


Packaging Information (Unit: mm/inch)

“DIP Series” and “DIP-F Series” Packaging (Bulk)

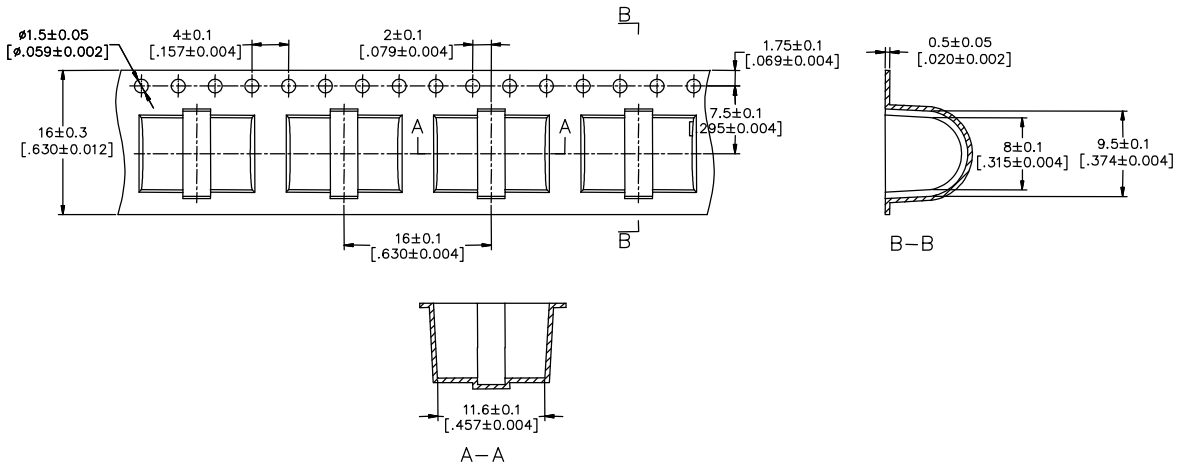


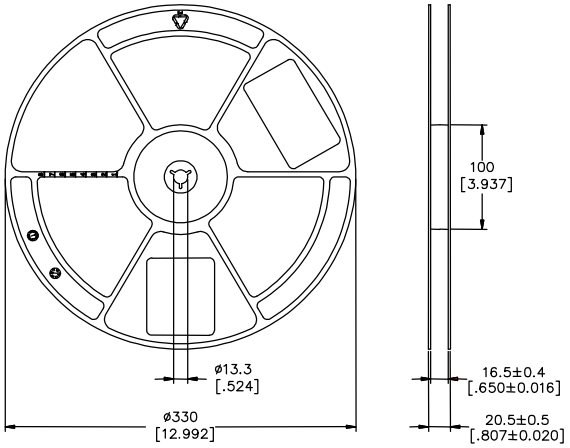
100PCS/ Plastic Tray



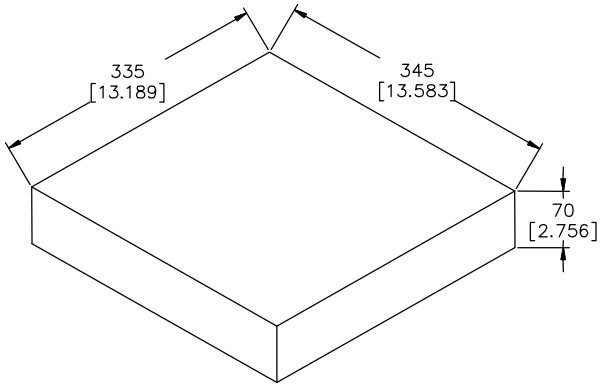
500PCS, 5 Plastic Trays / Inner Box

“SMD Series” Packaging (Tape & Reel)



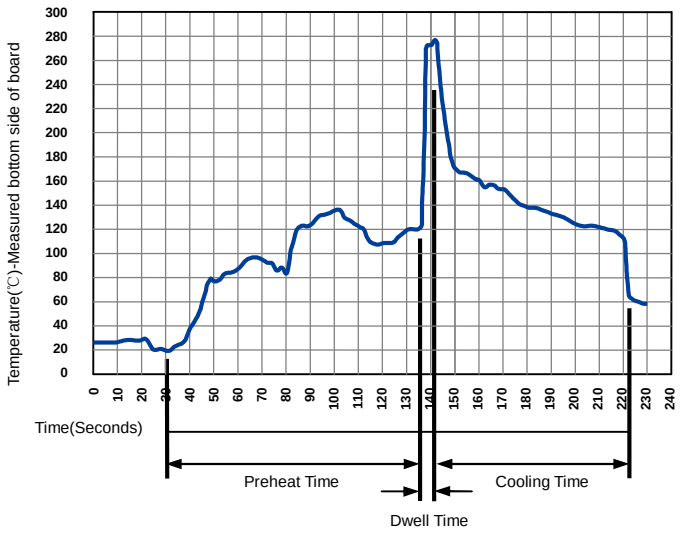


300PCS / Reel



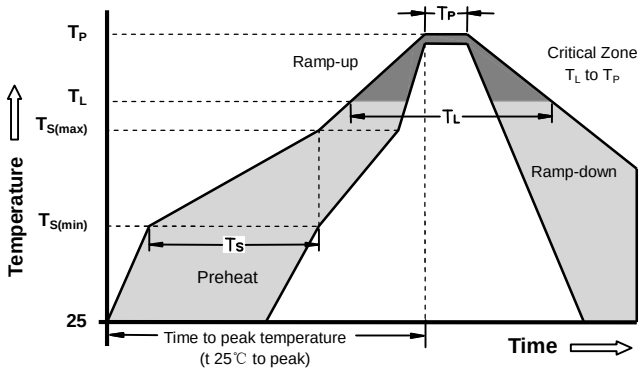
900PCS, 3 Reels / Inner Box

Soldering Parameters - Wave soldering (Thru-Hole Devices)



Wave Soldering Condition		Pb-Free assembly
Preheat	Temperature Min	100°C
	Temperature Max	150°C
	Time (Min to Max)	60-180 Seconds
Solder Pot Temperature		280°C Max
Solder Dwell Time		2-5 Seconds

Soldering Parameters - Reflow Soldering (Surface Mount Devices)



Reflow Condition		Pb - Free assembly
Preheat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 -180 Seconds
Average ramp up rate (Liquids Temp T_L) to peak		3°C/second max
$T_{S(max)}$ to TL - Ramp-up Rate		5°C/second max
Reflow	- Temperature (T_L) (Liquids)	217°C
	- Time (min to max) (t_s)	60 -150 Seconds
Peak Temperature (T_P)		260 +0/-5°C
Time within 5°C of actual peak Temperature (t_p)		10 - 30 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max
Do not exceed		260°C