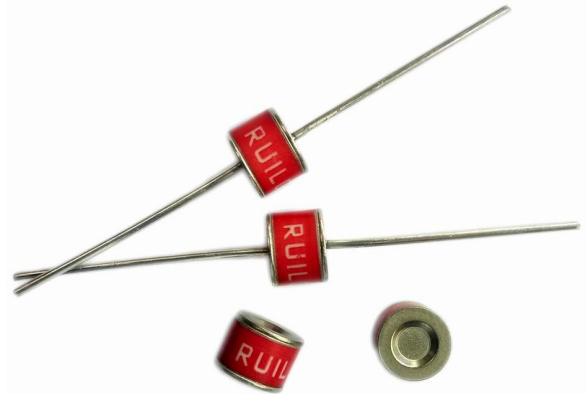


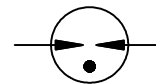
Description

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



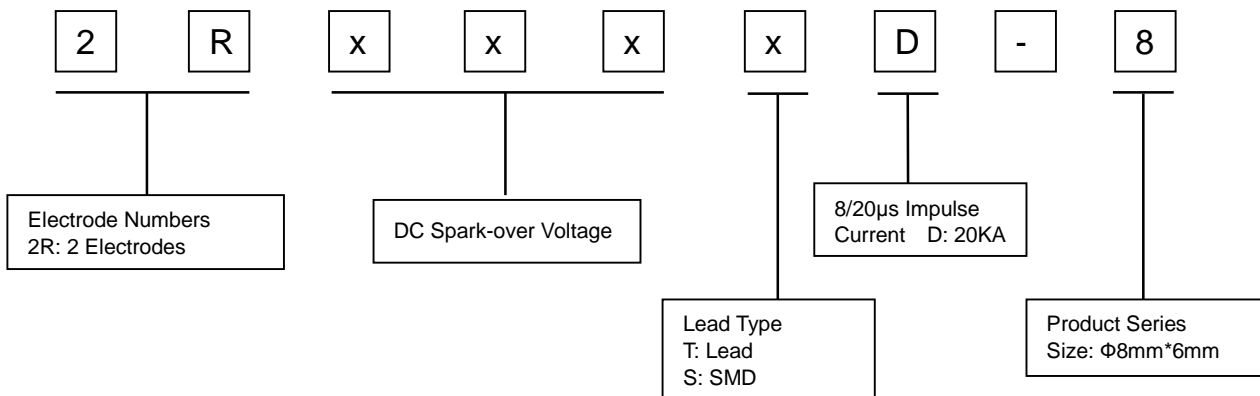
Features

- I Excellent response to fast rising transients
- I Stable breakdown voltage
- I GHz working frequency
- I 8/20µs Impulse current capability: 20KA
- I Non-Radioactive
- I Ultra Low capacitance (<1.5pF)
- I Lead-free compliant
- I RoHS and REACH compliant
- I UL 497B Recognized: E465335
- I Size: Φ8mm*6mm
- I Storage and operational temperature: -40~+90°C

Applications

- I MDF modules
- I xDSL equipment
- I RF systems
- I Antenna
- I Base stations
- I Repeaters, Modems
- I Telephone Interface, Line cards
- I Data communication equipment
- I Line test equipment
- I Power supplies
- I Surge protectors, Alarm systems

Part Number Code



Electrical Characteristics

Part Number		DC Spark-over Voltage ^{1) 2)} @100V/S	Impulse Spark-over Voltage		Insulation Resistance ³⁾	Capacitance @1MHz	Life Ratings				
			100V/ μ S	1KV/ μ S			Impulse Discharge Current @8/20 μ S		AC Discharge Current @50Hz 1S	Impulse Life @10/1000 μ S 100A	
			Max	Max			Min	Max	Nominal \pm 5 times	Max 1 time	Nominal 5 times
DIP	SMD	V	V	V	G Ω	pF	KA	KA	A	Times	
2R075TD-8	2R075SD-8	75 \pm 20%	500	600	1	1.5	20	25	20	300	
2R090TD-8	2R090SD-8	90 \pm 20%	500	600	1	1.5	20	25	20	300	
2R150TD-8	2R150SD-8	150 \pm 20%	500	600	1	1.5	20	25	20	300	
2R230TD-8	2R230SD-8	230 \pm 20%	600	700	1	1.5	20	25	20	300	
2R250TD-8	2R250SD-8	250 \pm 20%	600	700	1	1.5	20	25	20	300	
2R300TD-8	2R300SD-8	300 \pm 20%	750	850	1	1.5	20	25	20	300	
2R350TD-8	2R350SD-8	350 \pm 20%	800	900	1	1.5	20	25	20	300	
2R420TD-8	2R420SD-8	420 \pm 20%	900	1000	1	1.5	20	25	20	300	
2R470TD-8	2R470SD-8	470 \pm 20%	900	1100	1	1.5	20	25	20	300	
2R600TD-8	2R600SD-8	600 \pm 20%	1000	1200	1	1.5	20	25	20	300	
2R800TD-8	2R800SD-8	800 \pm 20%	1400	1600	1	1.5	20	25	20	300	
Glow Voltage at 10mA.....					~60V						
Arc Voltage at 1A.....					~10V						
Glow to Arc transition Current.....					~1.0A						
Weight.....					DIP ~1.7g SMD ~1.25g						
Operation and storage temperature.....					-40~+90°C						
Climatic category (IEC 60068-1).....					40/90/21						
Marking, red negative.....					XXX Y XXX -Nominal voltage Y -Year of production						
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⁾ Insulation Resistance Measuring Voltage:

75V at DC 25V

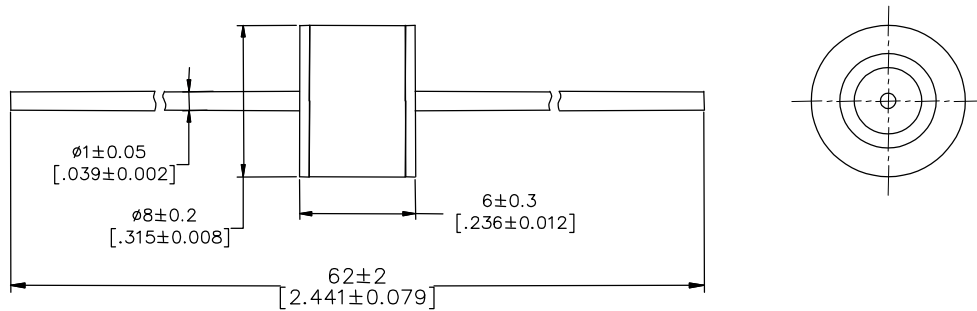
90V~150V at DC 50V

Other at DC 100V

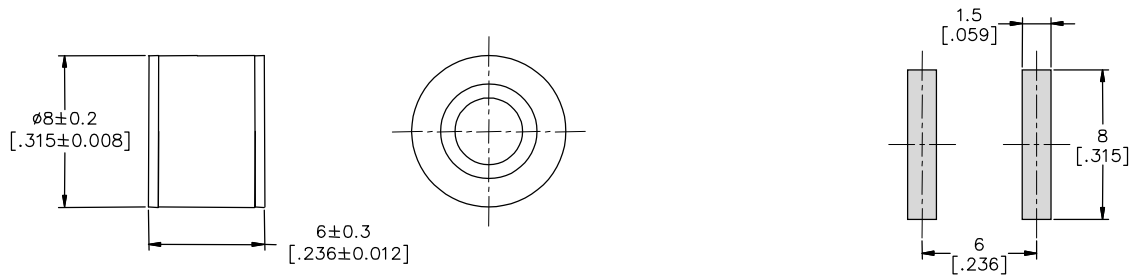
Terms in accordance with ITU-T Rec. K.12, IEC 61643-311, GB/T 9043.

Dimensions (Unit: mm/inch)

DIP Series (2RxxxTD-8)



SMD Series (2RxxxSD-8)

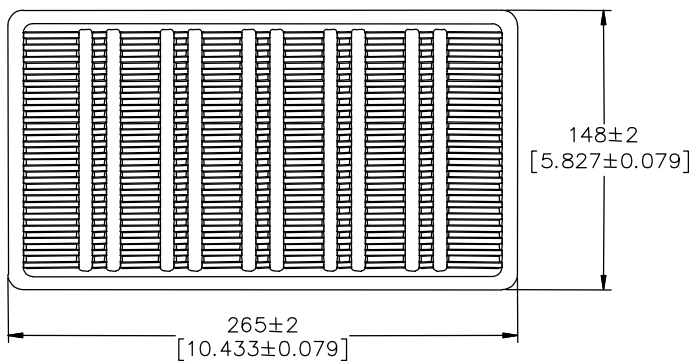


Recommended Soldering Pad Layout

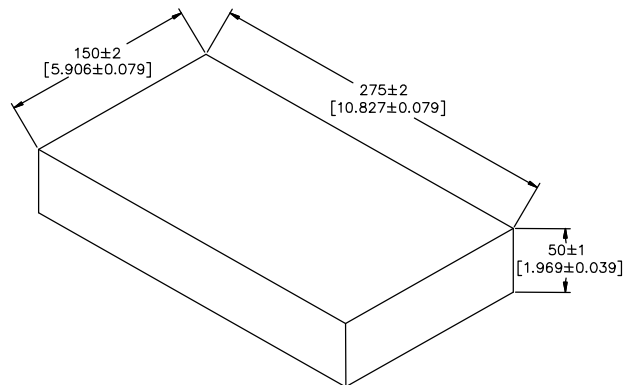
Packaging Information (Unit: mm/inch)

Axial Packaging (Bulk)

Plastic Tray



Inner box



Packaging Quantity:

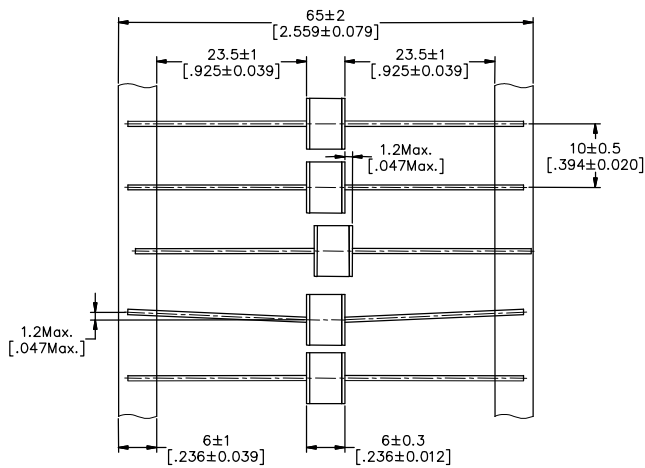
1,00 PCS per Plastic Tray

5 Plastic Trays per inner box

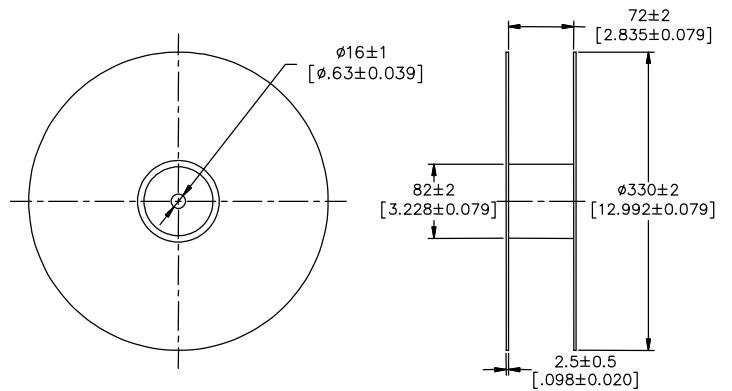
500 PCS per inner box

Axial Packaging (Tape & Reel)

Tape



Reel

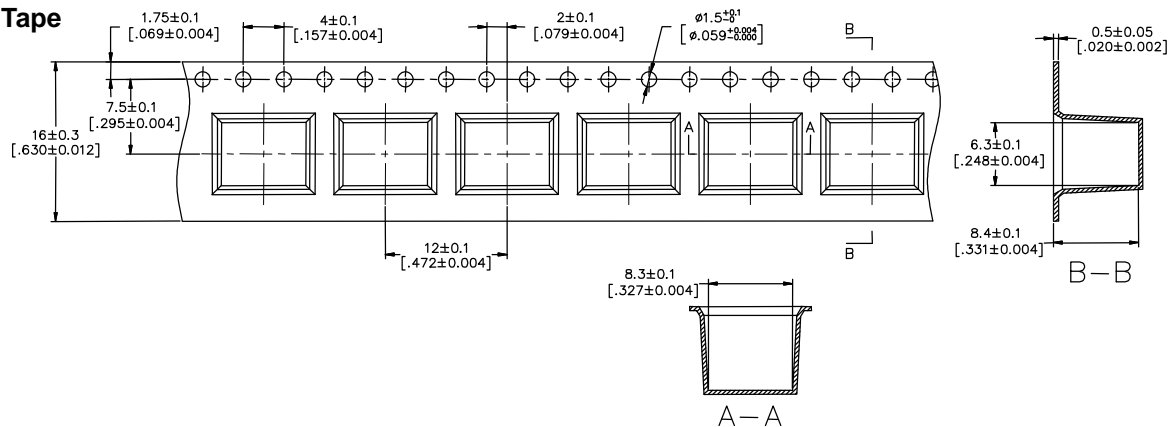


Packaging Quantity:

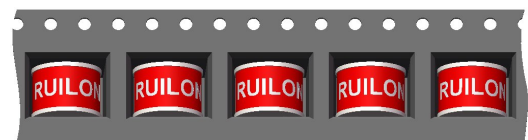
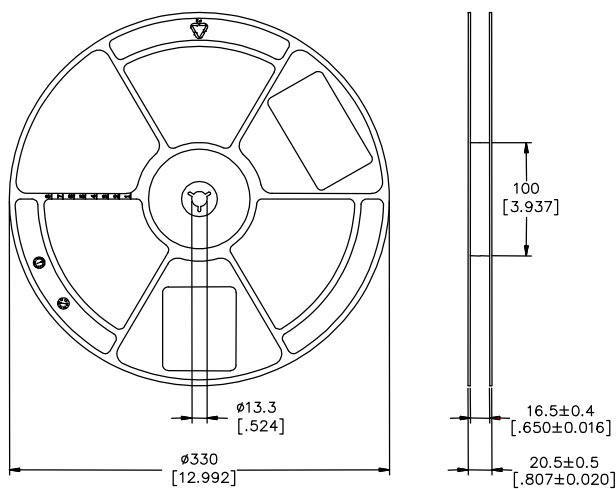
800 PCS per reel

SMD Packaging (Tape & Reel)

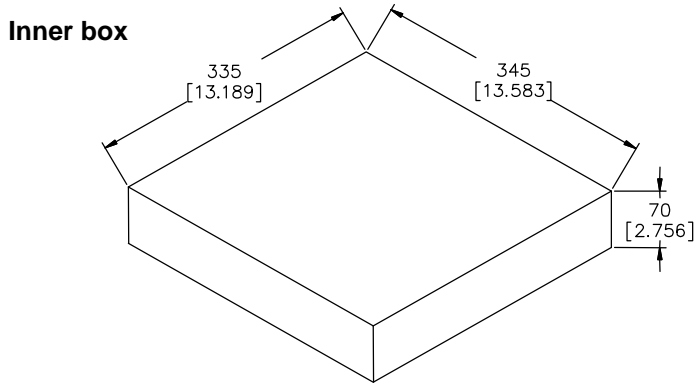
Tape



Reel



Direction of Unreeling



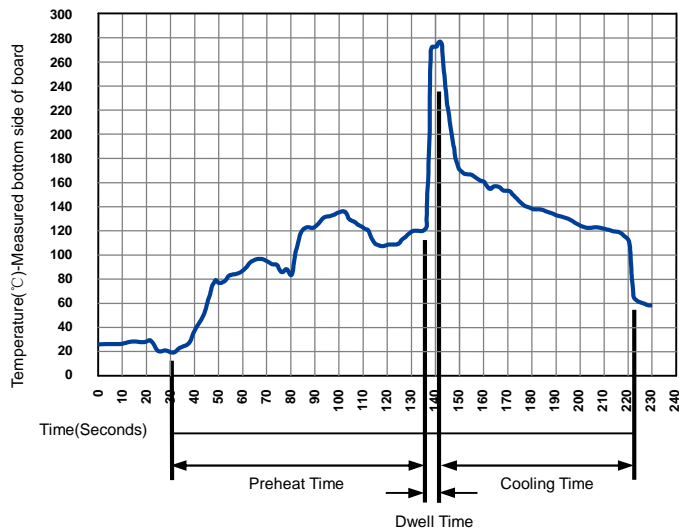
Packaging Quantity:

500 PCS per reel (13")

3 reels per inner box

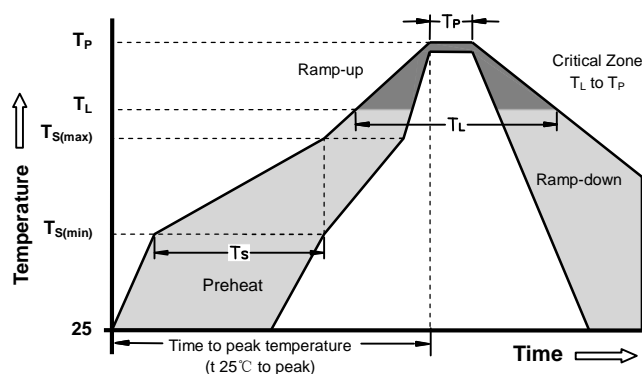
1,500 PCS per inner box

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 T_L - 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