



SPECIFICATION FOR APPROVAL

Corporation

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GUILIN SEMISAM ELECTRONIC TECHNOLOGY CO., LTD

Add:Floor 1-3 building 5 B18 standard workshop Suqiao Industrial ParkGuilin economic
and Technological Development ZoneGuilin City Guangxi Zhuang Autonomous Region

CUSTOMER :

PART NAME : Gas Discharge Tubes

CERTIFIED MODEL :

PRODUCT CODE :

PART No. : 2R600TD-8

CUSTOMER P/N :

REMARK :

Compile Date:	2023-12-25	Revision date:		Edition:	1.0
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Supplier confirmation			
Editor	Luo Zhongquan	Date	2023-12-25
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Affix a seal			

Customer confirmation			
Editor		Date	
Check		Date	
Approval		Date	
Affix a seal			

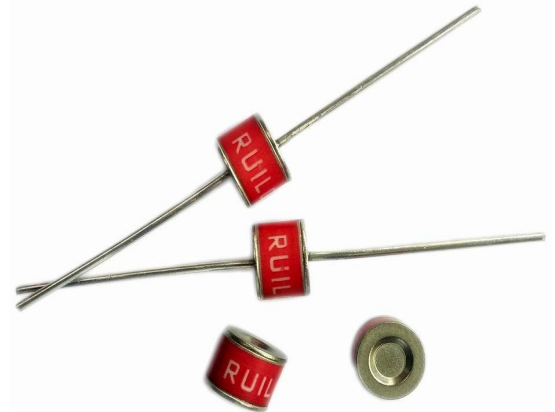
REVISED RECORD LIST

Rev.	Date	Revised Content
1.0	2023-12-25	Initial version

Gas Discharge Tube

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..

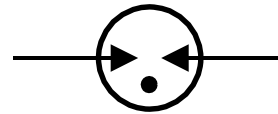
Our GDT offer a high level of surge protection, a broad voltage range, low capacitance, and many form factors including new surface mount devices, which makes them suitable for applications such as Main Distribution Frame (MDF) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge 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.



Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- GHz working frequency
- 8/20 μ s Impulse current capability: 20KA
- Non-Radioactive
- Ultra Low capacitance (<1.5pF)
- Lead-free compliant
- RoHS and REACH complian
- Size: Φ 8mm*6mm
- Storage and operational temperature: -40~+90 $^{\circ}$ C

Electrical symbol



Applications

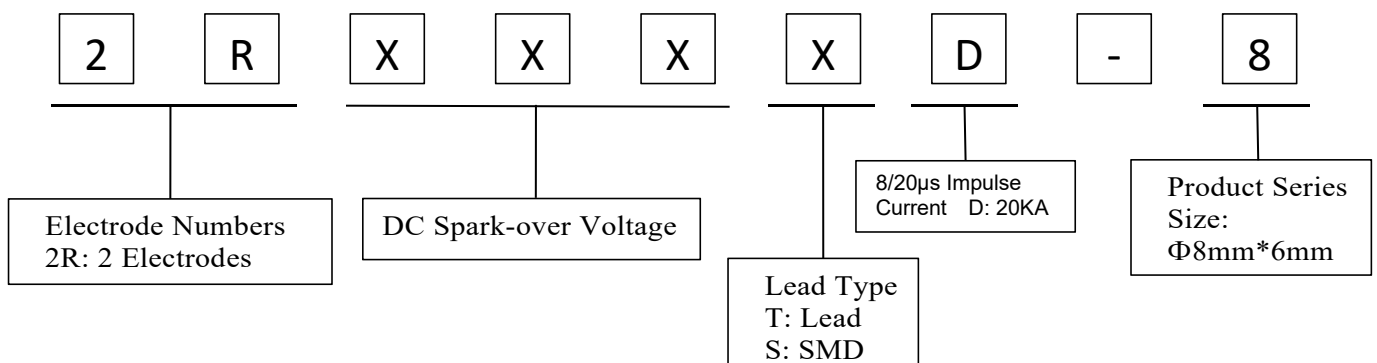
Automotive:

- MDF modules
- xDSL equipment
- RF systems
- Antenna
- Base stations
- Repeaters, Modems
- Telephone Interface, Line cards

Others:

- Data communication equipment
- Line test equipment
- Power supplies
- 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	Glow Voltage @10mA	Arc Voltage @1A	Arc Voltage @1A			
			100V/μS	1KV/μS					Impulse Discharge Current@8/20μS		AC Discharge Current @50Hz 1S	Impulse Life @10/100μS 100A
			Max	Max					Min	Max	Type	Type
DIP	SMD	V	V	V	GΩ	pF	V	V	KA	KA	A	Times
2R075TD-8 ⁴⁾	2R075SD-8 ⁴⁾	75±20%	500	600	1	1.5	60	10	20	25	20	300
2R090TD-8	2R090SD-8	90±20%	500	600	1	1.5	60	10	20	25	20	300
2R150TD-8	2R150SD-8	150±20%	500	600	1	1.5	60	10	20	25	20	300
2R230TD-8	2R230SD-8	230±20%	600	700	1	1.5	60	10	20	25	20	300
2R250TD-8 ⁴⁾	2R250SD-8 ⁴⁾	250±20%	600	700	1	1.5	60	10	20	25	20	300
2R300TD-8	2R300SD-8	300±20%	750	850	1	1.5	60	10	20	25	20	300
2R350TD-8	2R350SD-8	350±20%	800	900	1	1.5	60	10	20	25	20	300
2R420TD-8	2R420SD-8	420±20%	900	1000	1	1.5	135	15	20	25	20	300
2R470TD-8	2R470SD-8	470±20%	900	1100	1	1.5	135	15	20	25	20	300
2R600TD-8	2R600SD-8	600±20%	1000	1200	1	1.5	135	15	20	25	20	300
2R800TD-8	2R800SD-8	800±20%	1400	1600	1	1.5	135	15	20	25	20	300

Glow to Arc transition Current ~0.5A

Weight DIP 1.7g
SMD ~1.25g

Operation and storage temperature -40~+90°C

Marking, red negative **RUILON 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~150V at DC 50V

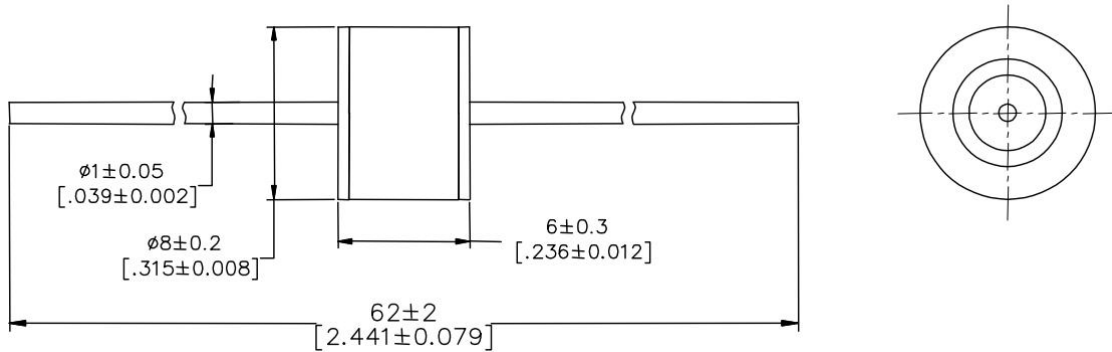
Other at DC 100V

4) No UL recognized.

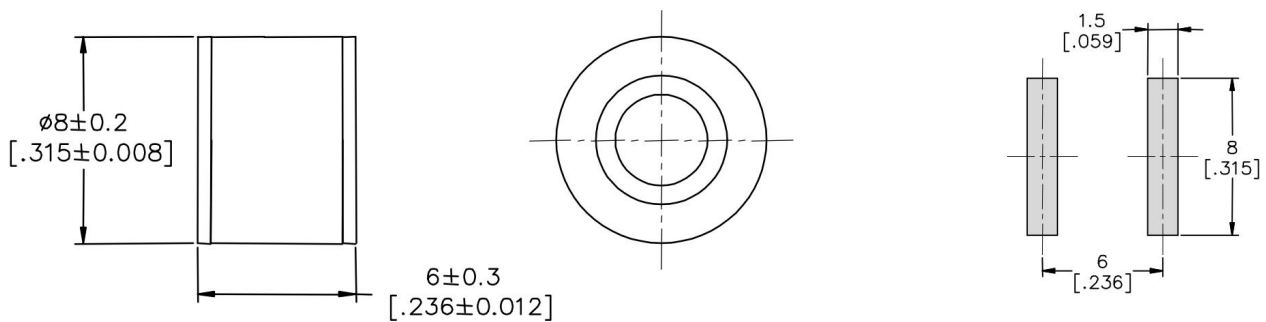
Terms in accordance with ITU-T Rec. K.12, IEC 61643-311, GB/T18802.311, GB/T 9043.

Dimensions (Unit: mm/inch)

DIP Series (2RxxxTD-8)



SMD Series (2RxxxSD-8)

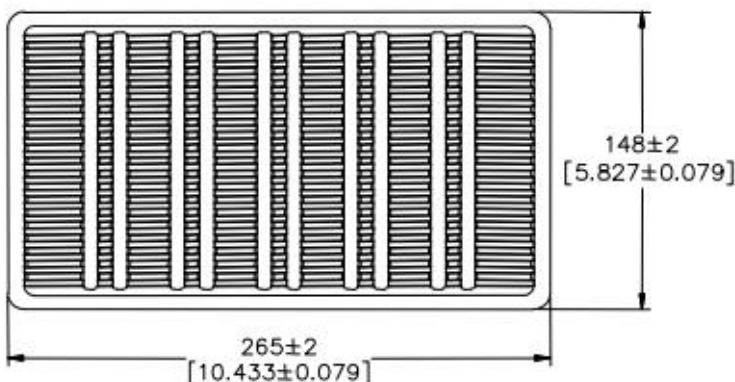


Recommended Soldering Pad Layout

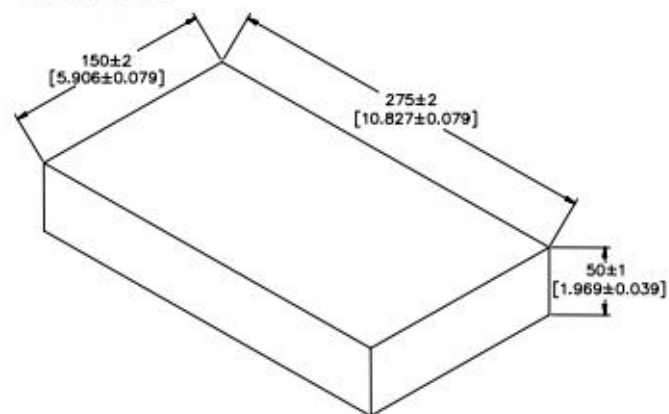
Packaging Information (Unit: mm/inch)

Axial Packaging (Bulk)

Plastic Tray



Inner box

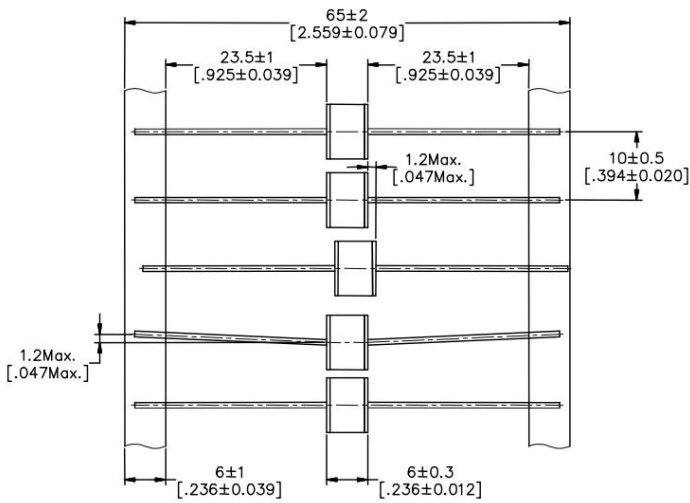


Packaging Quantity:

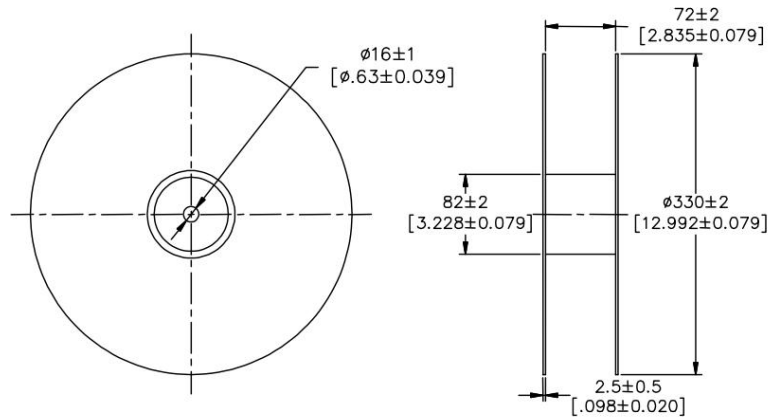
- 100 PCS per Plastic Tray
- 5 Plastic Trays per inner box
- 500 PCS per inner box

Axial Packaging (Tape & Reel)

Tape



Reel

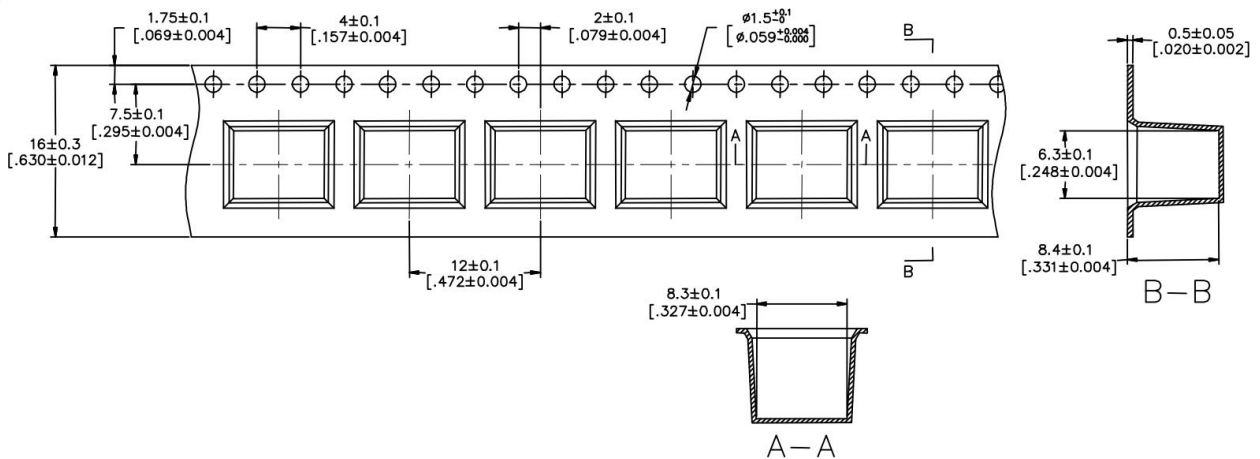


Packaging Quantity:

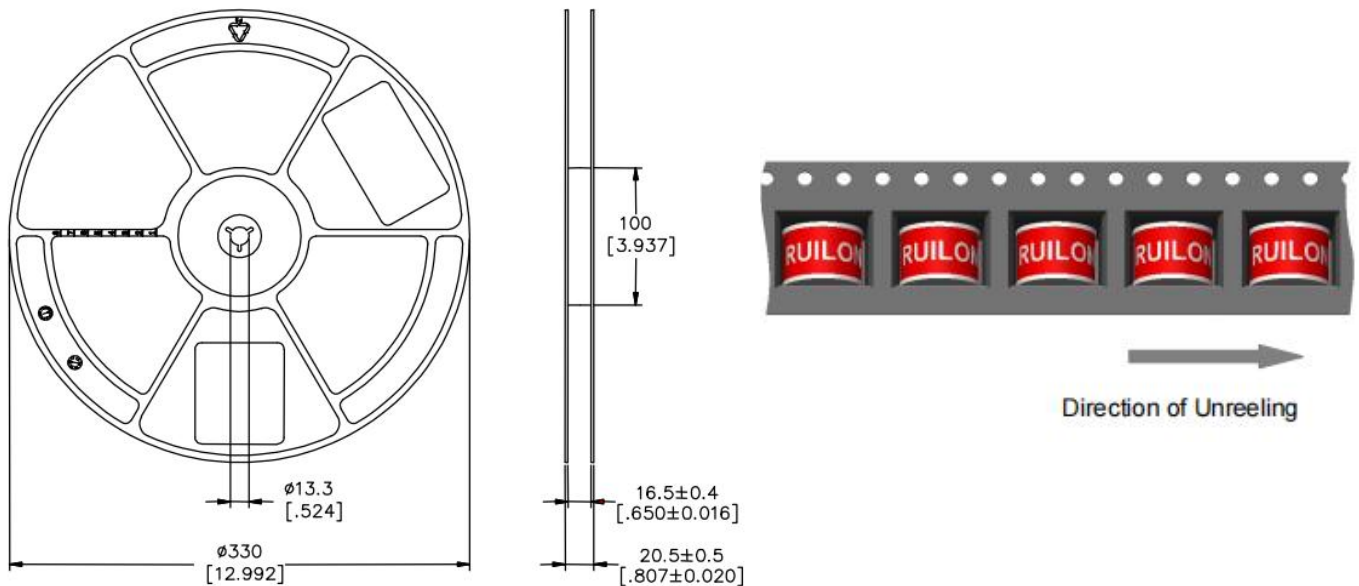
800 PCS per reel

SMD Packaging (Tape & Reel)

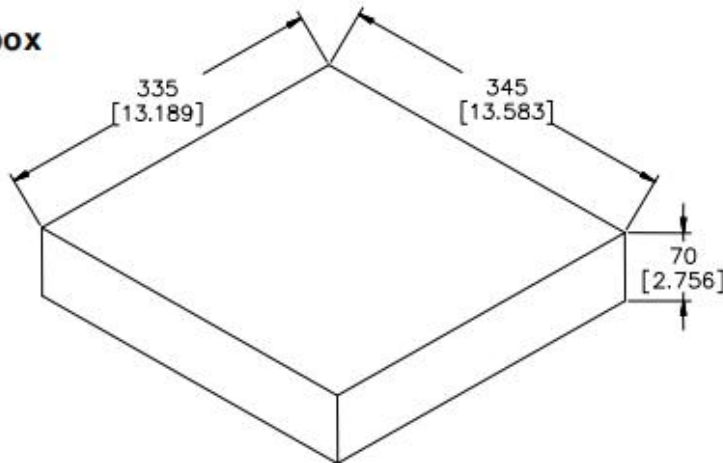
Tape



Reel

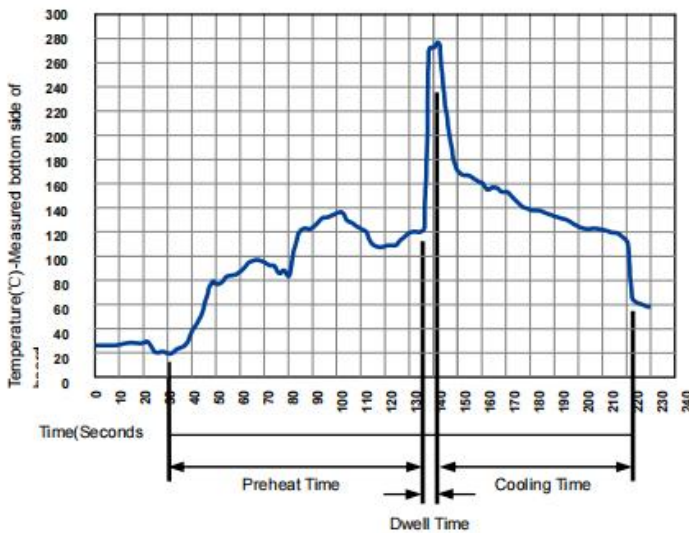


Inner box



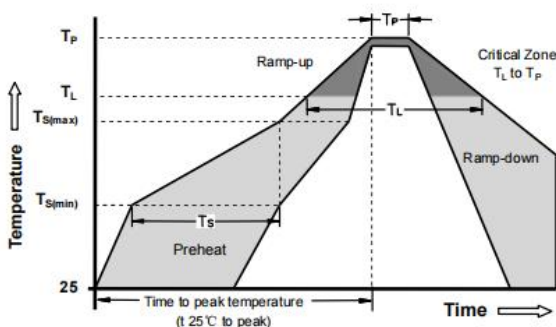
Packaging Quantity:
500 PCS per (13")
3 reels per inner box
1500 PCS per inner box

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