

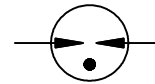
**Description**

Using the technical requirements of the leading industry, we has designed a super thin gas discharge tube, which is mainly used in the product's volume requirements and space constraints.

Gas discharge tubes (GDT) use noble gasses enclosed in ceramic tubes to provide an alternate circuit path for voltage spikes. The ceramic envelope and with nickel connectors allow for high loads. 2RA-8T Gas Discharge Tubes (GDT) series has a surge rating of 5kA, 8/20µs. This GDT series is perfectly suited for broadband equipment applications. The GDT's low off-state capacitance is compatible with high bandwidth applications and this capacitance loading value does not vary if the voltage across the GDT changes.



**Electrical symbol**



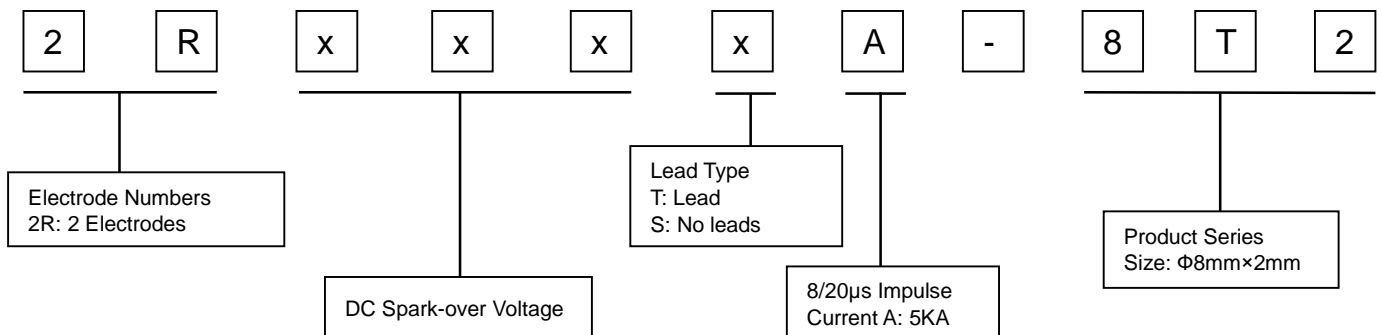
**Features**

- I Excellent response to fast rising transients
- I Stable breakdown voltage
- I GHz working frequency
- I 8/20µs Impulse current capability: 5KA
- I Non-Radioactive
- I Ultra Low capacitance (<3.0pF)
- I Lead-free compliant
- I RoHS and REACH compliant
- I Size: Φ8mm\*2mm
- I Storage and operational temperature: -40~+90°C

**Applications**

- I Telecom CPE
- I Communication equipment
- I Surge Protective Devices
- I High density PCB assemblies

**Part Number Code**



## Electrical Characteristics

Part Number	DC Spark-over Voltage <sup>1)2)</sup> @100V/S	Impulse Spark-over Voltage		Insulation Resistance <sup>3)</sup>	Capacitance @1MHz	Life Ratings				
		100V/ $\mu$ S	1KV/ $\mu$ S			Impulse Discharge Current @8/20 $\mu$ S		AC Discharge Current @50Hz 1S	Impulse Life @10/1000 $\mu$ S 100A	
		Max	Max	Min	Max	Nominal $\pm$ 5 times	Max 1 time	Nominal 5 times	Min	
		V	V	V	G $\Omega$	pF	KA	KA	A	Times
2R090SA-8T2 2R090TA-8T2	90 $\pm$ 20%	500	600	1	3.0	5	10	10	300	
2R150SA-8T2 2R150TA-8T2	150 $\pm$ 20%	500	600	1	3.0	5	10	10	300	
2R230SA-8T2 2R230TA-8T2	230 $\pm$ 20%	600	700	1	3.0	5	10	10	300	
2R250SA-8T2 2R250TA-8T2	250 $\pm$ 20%	600	700	1	3.0	5	10	10	300	
2R300SA-8T2 2R300TA-8T2	300 $\pm$ 20%	750	850	1	3.0	5	10	10	300	
2R350SA-8T2 2R350TA-8T2	350 $\pm$ 20%	800	900	1	3.0	5	10	10	300	
2R400SA-8T2 2R400TA-8T2	400 $\pm$ 20%	850	950	1	3.0	5	10	10	300	
2R420SA-8T2 2R420TA-8T2	420 $\pm$ 20%	850	950	1	3.0	5	10	10	300	
2R470SA-8T2 2R470TA-8T2	470 $\pm$ 20%	900	1000	1	3.0	5	10	10	300	
2R600SA-8T2 2R600TA-8T2	600 $\pm$ 20%	1000	1200	1	3.0	5	10	10	300	
2R800SA-8T2 2R800TA-8T2	800 $\pm$ 20%	1400	1600	1	3.0	5	10	10	300	
2R1000SA-8T2 2R1000TA-8T2	1000 $\pm$ 20%	1600	1800	1	3.0	5	10	10	300	
Glow Voltage at 10mA.....				~60V						
Arc Voltage at 1A.....				~10V						
Glow to Arc transition Current.....				~1A						
Weight.....				~0.42g						
Operation and storage temperature.....				-40~+90°C						
Climatic category (IEC 60068-1).....				40/90/21						
Marking, Laser marking.....				<b>xxxA X</b> xxx -Nominal voltage A -Nominal Impulse Discharge Current X -Year of production						
Surface treatment.....				Matte-tin plated						

<sup>1)</sup> At delivery AQL 0.65 level II, DIN ISO 2859

<sup>2)</sup> In ionized mode

<sup>3)</sup> Insulation Resistance Measuring Voltage:

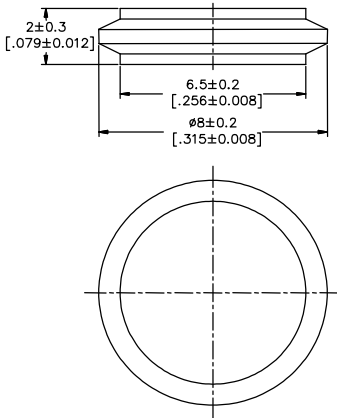
90V~150V at DC 50V

Other at DC 100V

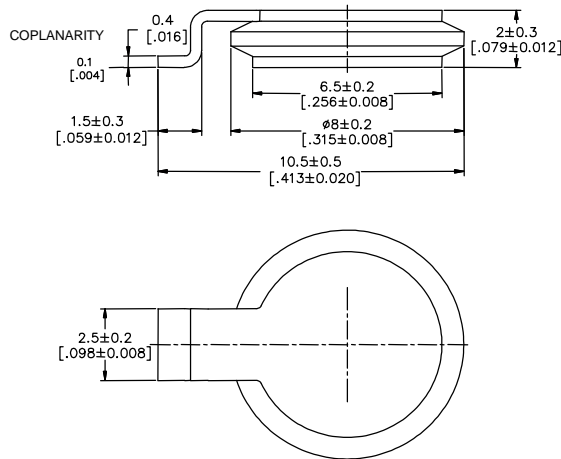
Terms in accordance with ITU-T Rec. K.12, IEC 61643-311, GB/T 9043.

Dimensions (Unit: mm/inch)

2RXXSB-8T2

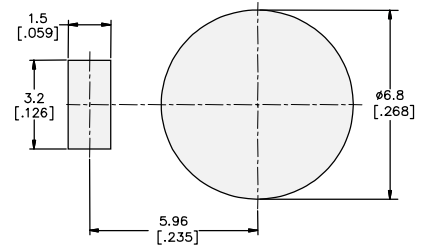


2RXXTB-8T2

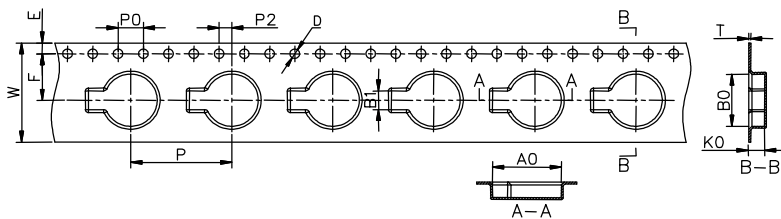


2RXXTB-8T2

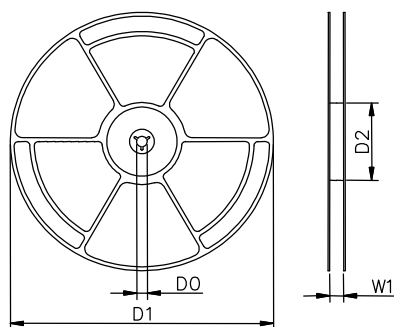
Recommended Soldering Pad Layout



Taping and Reel Specifications



SMD-tape according to IEC 60286-3



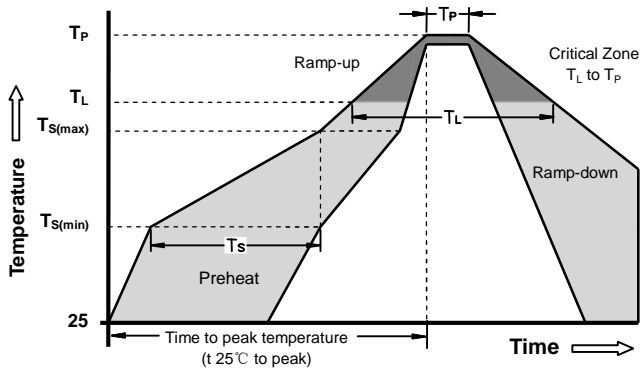
Direction of Unreeling

Symbol	Millimeters	Inches
W	16±0.3	0.630±0.012
A0	10.9±0.1	0.429±0.004
B0	8.4±0.1	0.331±0.004
B1	3.0±0.1	0.118±0.004
K0	2.5±0.1	0.098±0.004
P	16±0.1	0.630±0.004
F	7.5±0.1	0.295±0.004
E	1.75±0.1	0.069±0.004
D	1.5+0.1/-0.0	0.059+0.004/-0.0
P0	4±0.1	0.157±0.004
P2	2±0.1	0.079±0.004
T	0.3±0.05	0.012±0.002
D0	13.3±0.15	0.524±0.006
D1	330±2	12.992±0.079
D2	100+1/-2	3.937+0.039/-0.079
W1	16.5±0.4	0.65±0.016

Packaging Quantity:

- 1500 PCS per reel (13")
- 3 reels per inner box
- 4500 PCS per inner box

**Soldering Parameters - Reflow Soldering (Surface Mount Devices)**



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