

Gas Discharge Tube (GDT) Datasheet

Features

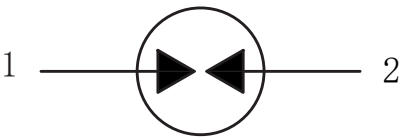
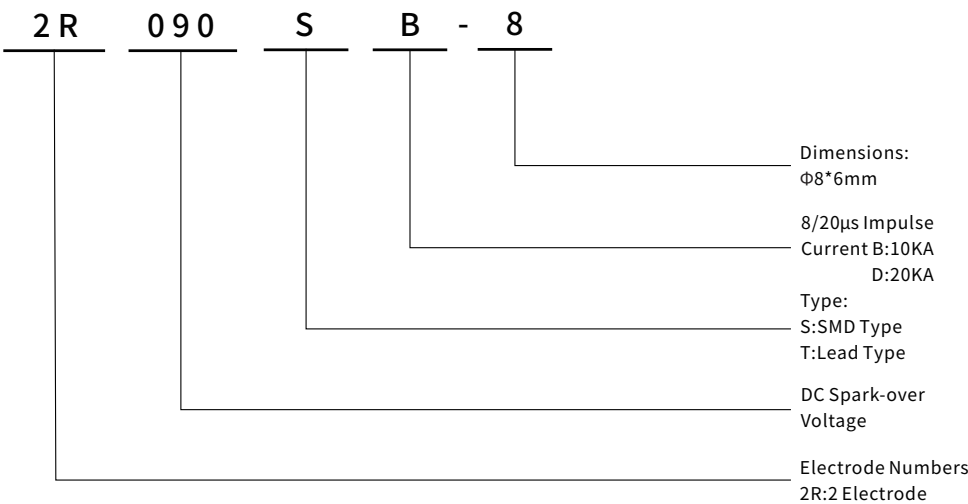
- Excellent response to fast rising transients
- Stable breakdown voltage
- Low capacitance and Insertion Loss
- High insulation resistance
- Dimensions $\Phi 8 \times 6\text{mm}$
- Storage and operating temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20 μs ;
- Moisture sensitivity level :Level 1

DC Spark-over Voltage
75V to 800V

Applications

- Test equipment
- AC Power
- Power supplies
- Telephone Interface, Line cards
- General Telecommunications equipment

Part Number Code



Safety Certification

UL: E465335

2-Electrode Gas Discharge Tubes, Model(s):

2RxxxSB-8 where xxx is 090, 150, 230, 300, 350, 400, 420, 470, 600, or 800.

2RxxxSD-8 where xxx is 090, 150, 230, 300, 350, 400, 420, 470, 600, or 800

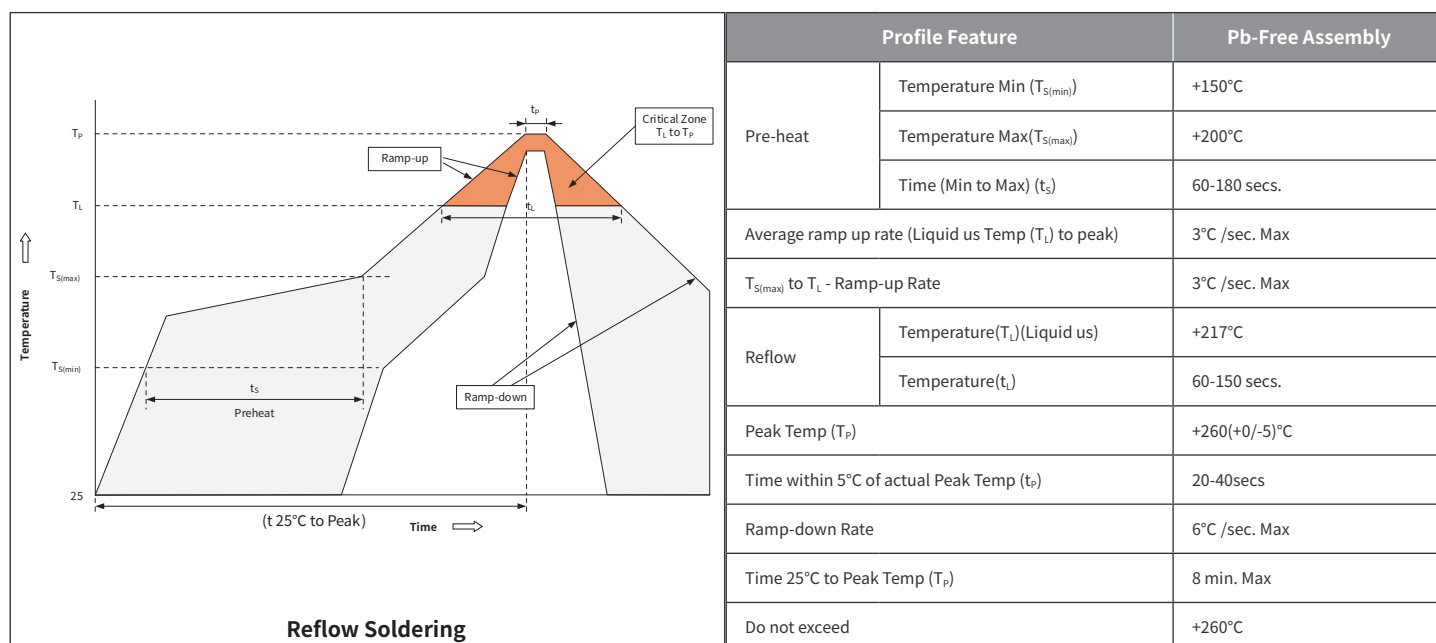
2RxxxTB-8 where xxx is 090, 150, 230, 300, 350, 400, 420, 470, 600, or 800.

2RxxxTD-8 where xxx is 090, 150, 230, 300, 350, 400, 420, 470, 600, or 800.

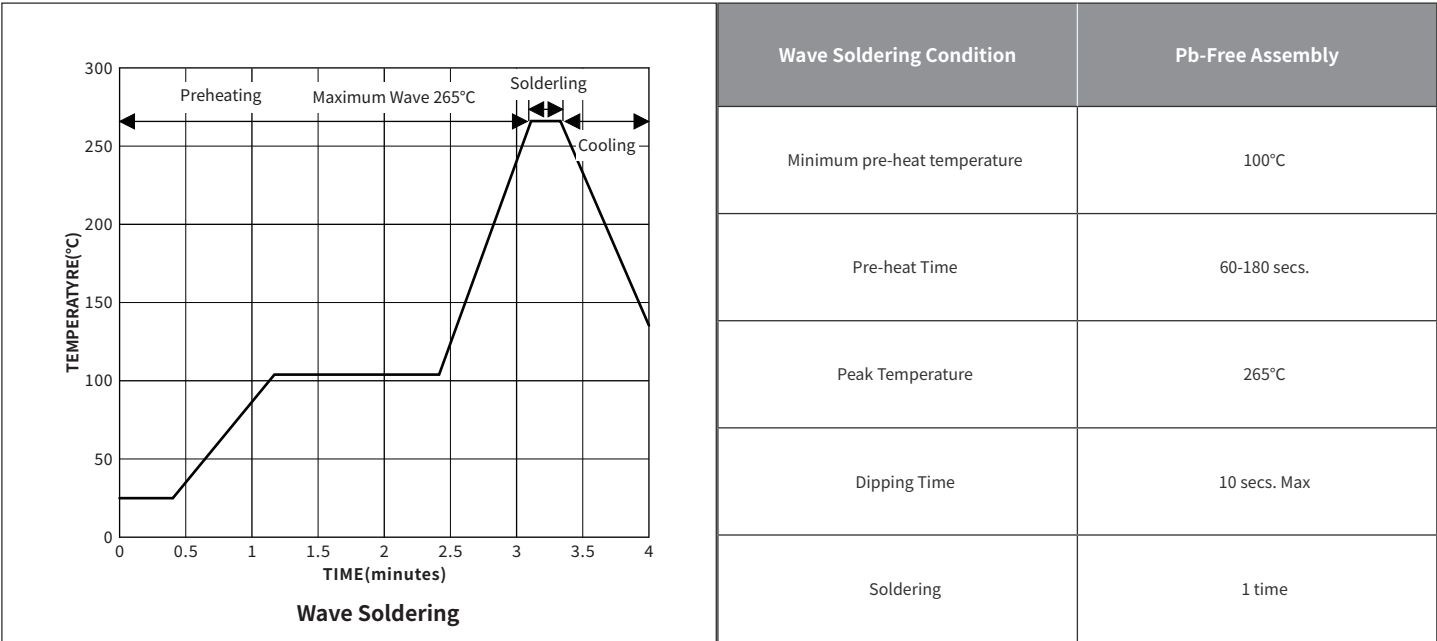
● Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	Marking	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current@8/20μs	Alternating Discharge Current @8/20μs	Impulse Life@ 10/1000μs	Minimum Insulation Resistance		Maximum Capacitance	
			100V/S	1000V/μs	±5times	50Hz,1sec 10 times	100A	Test Voltage	GΩ	1MHz
			(V)	(V)	(KA)	(A)	(times)	DC(V)		
2R075SB-8	2R075TB-8	R+O 075B-8	75±20%	600	10	10	300	25	1	1.5
2R090SB-8	2R090TB-8	R+O 090B-8	90±20%	600	10	10	300	50	1	1.5
2R150SB-8	2R150TB-8	R+O 150B-8	150±20%	600	10	10	300	100	1	1.5
2R230SB-8	2R230TB-8	R+O 230B-8	230±20%	700	10	10	300	100	1	1.5
2R250SB-8	2R250TB-8	R+O 250B-8	250±20%	700	10	10	300	100	1	1.5
2R300SB-8	2R300TB-8	R+O 300B-8	300±20%	800	10	10	300	100	1	1.5
2R350SB-8	2R350TB-8	R+O 350B-8	350±20%	800	10	10	300	100	1	1.5
2R400SB-8	2R400TB-8	R+O 400B-8	400±20%	850	10	10	300	100	1	1.5
2R420SB-8	2R420TB-8	R+O 420B-8	420±20%	850	10	10	300	100	1	1.5
2R470SB-8	2R470TB-8	R+O 470B-8	470±20%	900	10	10	300	250	1	1.5
2R600SB-8	2R600TB-8	R+O 600B-8	600±20%	1000	10	10	300	250	1	1.5
2R800SB-8	2R800TB-8	R+O 800B-8	800±20%	1400	10	10	300	250	1	1.5
2R075SD-8	2R075TD-8	R+O 075D-8	75±20%	600	20	20	300	25	1	1.5
2R090SD-8	2R090TD-8	R+O 090D-8	90±20%	600	20	20	300	50	1	1.5
2R150SD-8	2R150TD-8	R+O 150D-8	150±20%	600	20	20	300	100	1	1.5
2R230SD-8	2R230TD-8	R+O 230D-8	230±20%	700	20	20	300	100	1	1.5
2R250SD-8	2R250TD-8	R+O 250D-8	250±20%	700	20	20	300	100	1	1.5
2R300SD-8	2R300TD-8	R+O 300D-8	300±20%	850	20	20	300	100	1	1.5
2R350SD-8	2R350TD-8	R+O 350D-8	350±20%	900	20	20	300	100	1	1.5
2R420SD-8	2R420TD-8	R+O 420D-8	420±20%	1000	20	20	300	100	1	1.5
2R470SD-8	2R470TD-8	R+O 470D-8	470±20%	1100	20	20	300	250	1	1.5
2R600SD-8	2R600TD-8	R+O 600D-8	600±20%	1200	20	20	300	250	1	1.5
2R800SD-8	2R800TD-8	R+O 800D-8	800±20%	1600	20	20	300	250	1	1.5

● Recommended Soldering Conditions



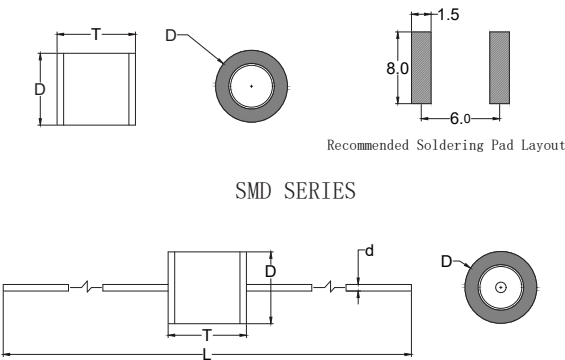
Recommended Soldering Conditions



Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Impulse Discharge Current	Maximum $8/20\mu s$ surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time.	
	The graph shows the impulse discharge current waveform. The y-axis is Current in % (0 to 100) and the x-axis is Time in μs. Two waveforms are shown: a standard 8/20 μs surge current waveform and a crest value waveform. The 8 μs time is marked from the start to the peak, and the 20 μs time is marked from the start to the point where the current has decayed to 50% of its peak value.	
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min.	
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	To meet the specified value
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	

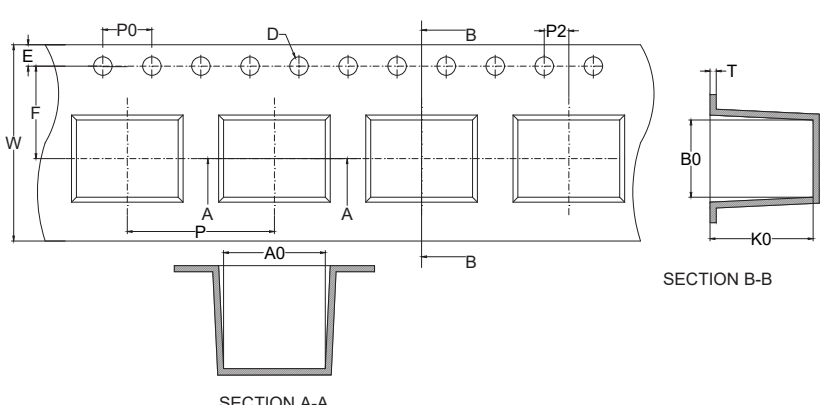
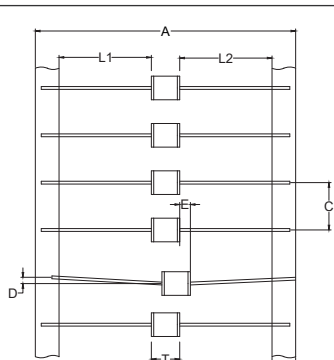
● Physical Dimensions & Recommended Pad Layout

 SMD SERIES LEAD SERIES	Symbol	Dimensions			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	D	7.8	8.2	0.307	0.323
	T	5.7	6.3	0.224	0.248
	Symbol	Dimensions			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	D	7.8	8.2	0.307	0.323
	T	5.7	6.3	0.224	0.248
	d	0.75	0.85	0.030	0.033
	L	60	64	2.362	2.520

● Ordering Information

SERIES	SIZE(mm)	DELIVERY MODE	MPQ(PCS)	BOX(PCS)
2R-8 SMD TYPE	Φ8×6	13"REEL	500	1,500
2R-8 LEAD TYPE	Φ8×6-62	13"REEL	800	2,400

● Packaging Information

 SECTION A-A SECTION B-B	Symbol	Dimensions(mm)	
		Millimeters	Inches
	W	16±0.3	0.63±0.012
	A0	5.3±0.1	0.209±0.004
	B0	4.3±0.1	0.17±0.004
	K0	5.2±0.1	0.205±0.004
	P	12±0.1	0.472±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	0.059±0.004
	P0	4.0±0.1	0.157±0.004
	P2	2.0±0.1	0.079±0.004
	T	0.4±0.1	0.016±0.004
	Symbol	Dimensions(mm)	
		Millimeters	Inches
	A	65±2	2.559±0.079
	B	6±1	0.236±0.012
	C	10±0.5	0.394±0.020
	L1	23.5±1	0.925±0.039
	L2	23.5±1	0.925±0.039
	D	1.2 Max.	0.047 Max.
	E	1.2 Max.	0.047 Max.
	T	6±0.3	0.236±0.012