Gas Discharge Tube (GDT) Datasheet

Features

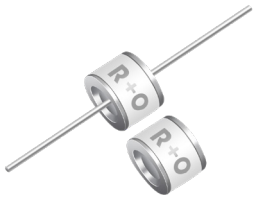
- Excellent response to fast rising transients
- Stable breakdown voltage
- Low capacitance and Insertion Loss
- High insulation resistance
- Dimensions Φ8*6mm
- Storage and operating temperature: -40°C ~ +85°C
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20μs;
- Moisture sensitivity level :Level 1

DC Spark-over Voltage
75V to 800V

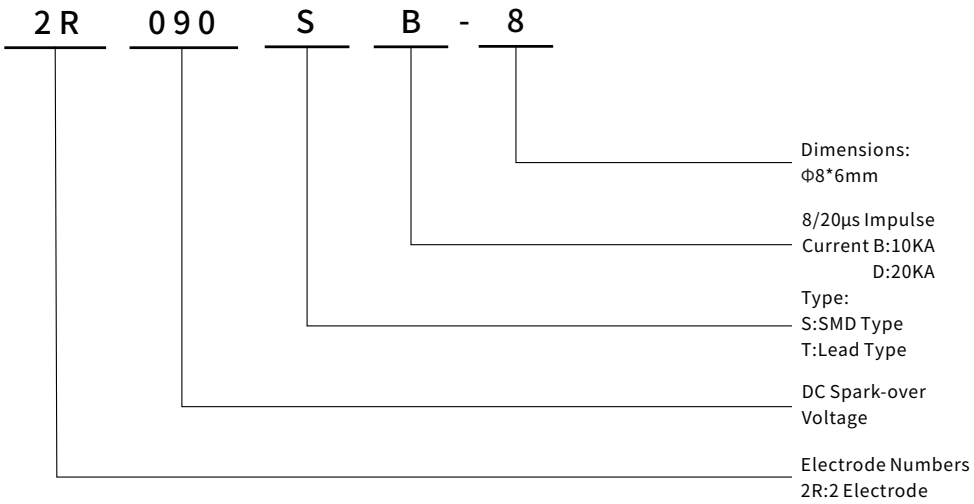
Applications

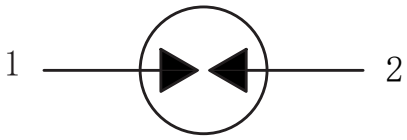
- Test equipment
- AC Power
- Power supplies
- Telephone Interface, Line cards
- General Telecommunications equipment

2R-8



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

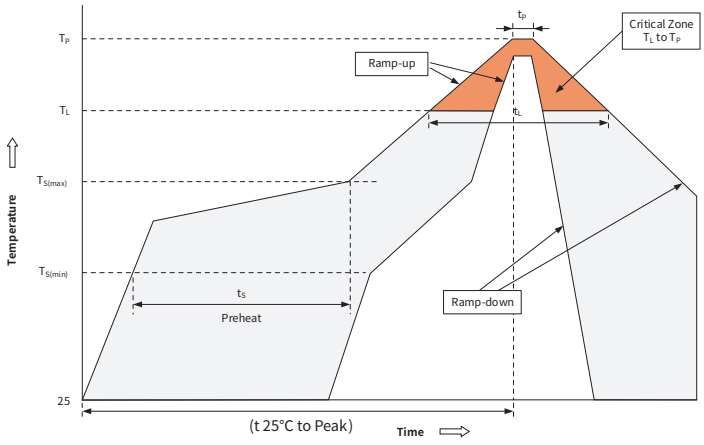
2RxxxTB-8 where xxx is 090, 150, 230, 300, 350, 400, 420, 470, 600, or 800.

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)		(pF)
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

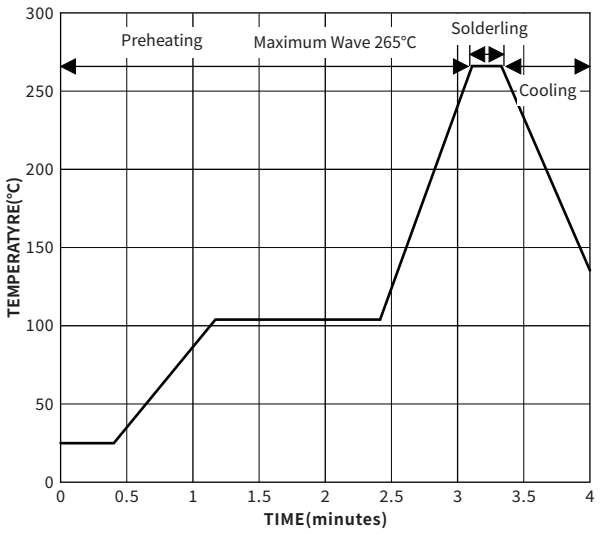
Recommended Soldering Conditions



Reflow Soldering

Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min ($T_{S(min)}$)	+150°C
	Temperature Max($T_{S(max)}$)	+200°C
	Time (Min to Max) (t_S)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C /sec. Max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C /sec. Max
Reflow	Temperature(T_L)(Liquid us)	+217°C
	Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_P)		20-40secs
Ramp-down Rate		6°C /sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

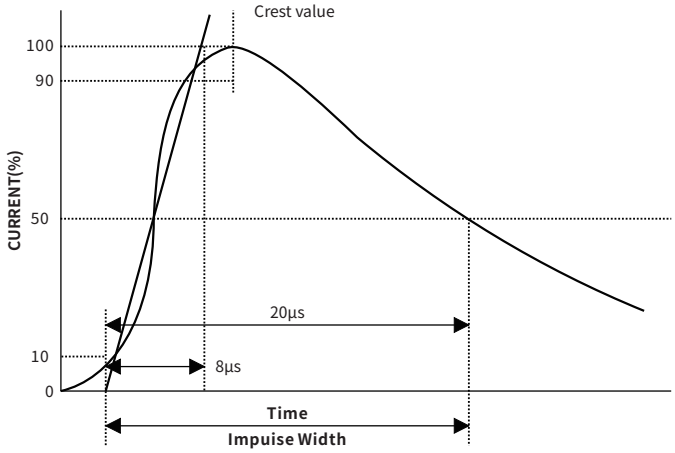
Recommended Soldering Conditions



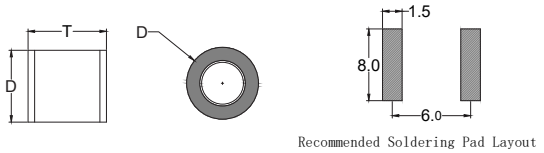
Wave Soldering

Wave Soldering Condition	Pb-Free Assembly
Minimum pre-heat temperature	100°C
Pre-heat Time	60-180 secs.
Peak Temperature	265°C
Dipping Time	10 secs. Max
Soldering	1 time

Electrical Ratings

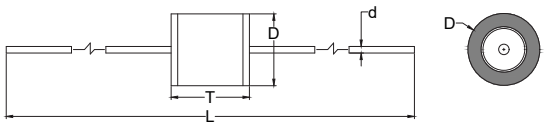
Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp dv/dt=100V/s	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp dv/dt=1000V/μs.	
Impulse Discharge Current	Maximum 8/20μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time.	
		
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.	
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	

Physical Dimensions & Recommended Pad Layout



Recommended Soldering Pad Layout

SMD SERIES



LEAD SERIES

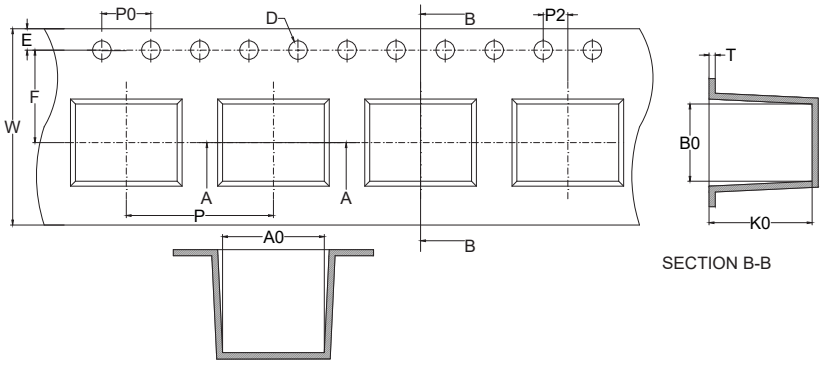
Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
D	7.8	8.2	0.307	0.323
T	5.7	6.3	0.224	0.248

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	0.95	1.05	0.037	0.041
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''Tape	800	2,400

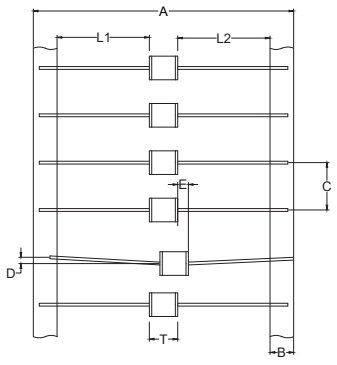
Packaging Information



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