Gas Discharge Tube (GDT) Datasheet

Features

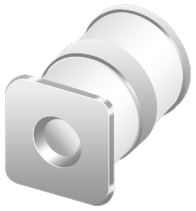
- Excellent response to fast rising transients
- Stable breakdown voltage
- Low capacitance and Insertion Loss
- High insulation resistance
- Dimensions 5*5*7.5mm
- Storage and operating temperature: -40°C ~ +85°C
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20μs;
- Moisture sensitivity level :Level 1

DC Spark-over Voltage
75V to 800V

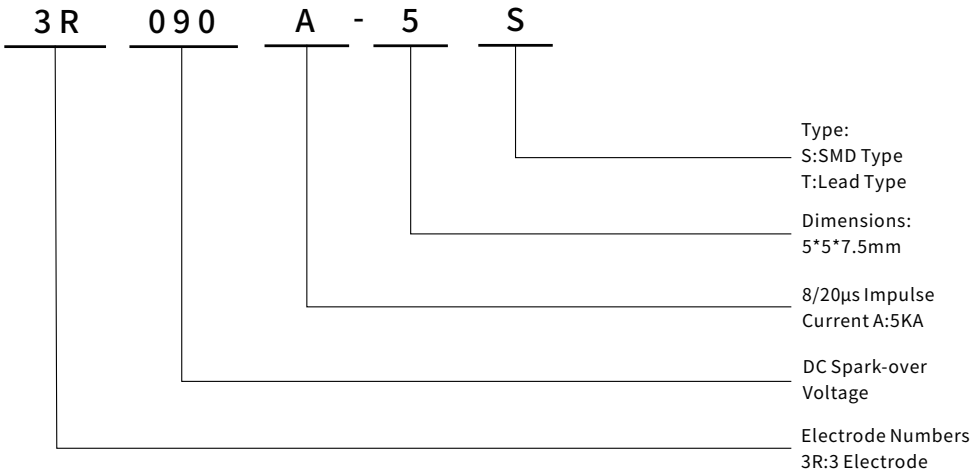
Applications

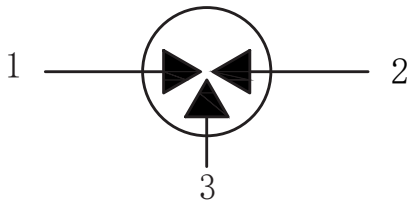
- Test equipment
- AC Power
- Power supplies
- Telephone Interface, Line cards
- General Telecommunications equipment

3R-5S



Part Number Code





Safety Certification

UL：E465335

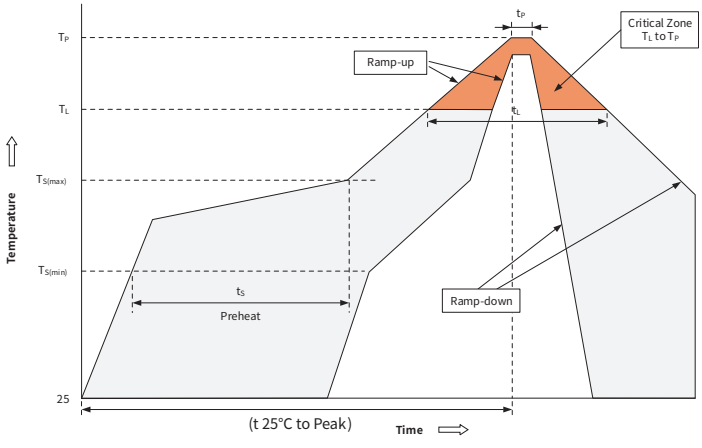
3-Electrode Gas Discharge Tubes, Model(s):

3RxxxA-5S where xxx is 075, 090 or 150.

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	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)
3R075A-5S	R+O 075A-5S	75±20%	600	5	5	300	25	1	1.5
3R090A-5S	R+O 090A-5S	90±20%	600	5	5	300	50	1	1.5
3R150A-5S	R+O 150A-5S	150±20%	600	5	5	300	100	1	1.5
3R200A-5S	R+O 200A-5S	200±20%	700	5	5	300	100	1	1.5
3R230A-5S	R+O 230A-5S	230±20%	700	5	5	300	100	1	1.5
3R250A-5S	R+O 250A-5S	250±20%	700	5	5	300	100	1	1.5
3R350A-5S	R+O 350A-5S	350±20%	900	5	5	300	100	1	1.5
3R400A-5S	R+O 400A-5S	400±20%	950	5	5	300	100	1	1.5
3R420A-5S	R+O 420A-5S	420±20%	950	5	5	300	100	1	1.5
3R470A-5S	R+O 470A-5S	470±20%	1000	5	5	300	250	1	1.5
3R600A-5S	R+O 600A-5S	600±20%	1200	5	5	300	250	1	1.5
3R800A-5S	R+O 800A-5S	800±20%	1500	5	5	300	250	1	1.5

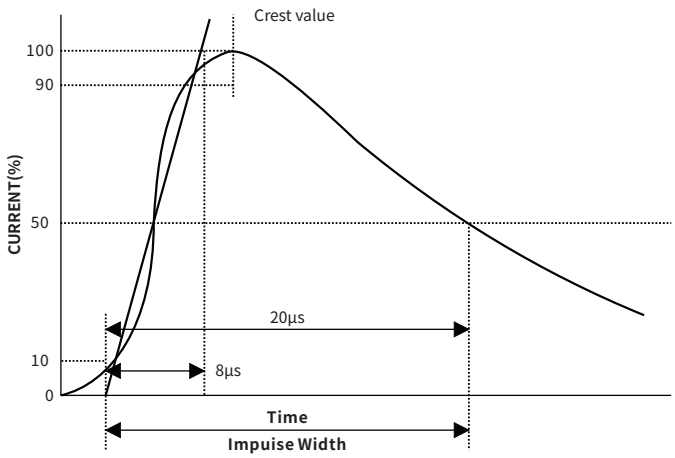
Recommended Soldering Conditions



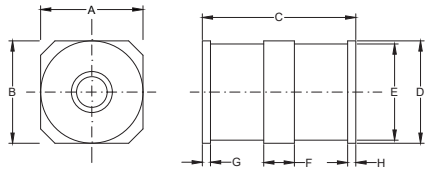
Reflow Soldering

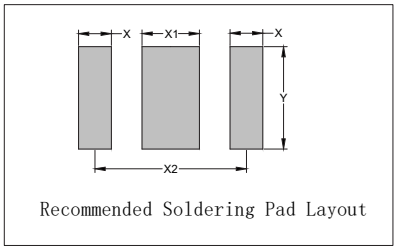
Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min ($T_{S(min)}$)	+150°C
	Temperature Max($T_{S(max)}$)	+200°C
	Time (Min to Max) (t_S)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C /sec. Max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C /sec. Max
Reflow	Temperature(T_L)(Liquid 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

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





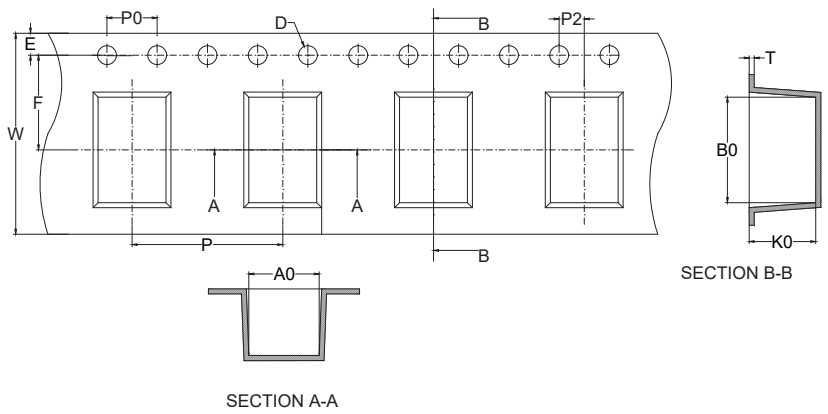
Recommended Soldering Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.8	5.2	0.189	0.205
B	4.8	5.2	0.189	0.205
C	7.3	7.9	0.287	0.311
D	4.8	5.2	0.189	0.205
E	4.5	4.9	0.177	0.193
F	1.4	1.8	0.055	0.071
G	0.3	0.5	0.012	0.020
H	0.3	0.5	0.012	0.020
X	1.6		0.063	
X1	2.8		0.110	
X2	7.4		0.291	
Y	5.2		0.205	

Ordering Information

SERIES	SIZE(mm)	DELIVERY MODE	MPQ(PCS)	BOX(PCS)
3R-5S	Φ5×5×7.5	13''REEL	1,000	3,000

Packaging Information



Symbol	Dimensions(mm)	
	Millimeters	Inches
W	16±0.3	0.63±0.012
A0	5.4±0.1	0.213±0.004
B0	8.4±0.1	0.331±0.004
K0	5.3±0.1	0.209±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