



3R-S5076 Series Gas Discharge Tube(GDT)

Features

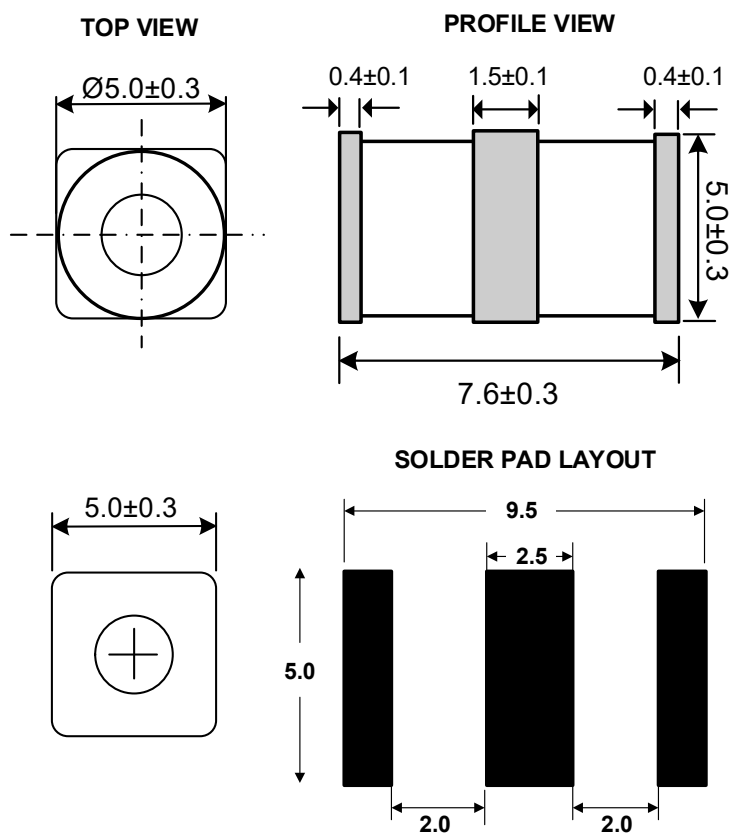
- 3-electrode arrester
- High insulation resistance
- Extremely fast response time
- Low capacitance ($\leq 1\text{pF}$)
- surge current 5KA 8/20us
- Storage and operating temperature:
-40℃ ~ +85℃
- RoHS compliant
- Meets MSL level 1



Applications

- Modem
- Splitter
- Base stations

Dimensional drawing



PartNumber Code

3R090M-S5076

- 3R:3-electrode arrester
- 090: DC Spark-over Voltage 90V
- M: Tolerance of DC Spark-Over Voltage
M:20% N: 30%
- S:SMD
- 5076: Size: 5.0mm*7.6mm

Dimensions in mm



Electrical Characteristics

Part Number	DC Spark-over Voltage (V)	Maximum Impulse Spark-over Voltage (V)		Maximum Impulse Discharge Current (8/20 μ s) (KA)		Normal Alternating Discharge Current (A)		Impulse Life 10/1000 μ s (100A)	DC Holdover Voltage (V)	Minimum Insulation Resistance (G Ω)	Maximum Capacitance (pf)
	100V/s	100 V/ μ s	1000 V/ μ s	1 time	10 times	50Hz, 1sec	Single 9cycles	times	< 150 ms	Note2	1MHZ
3R075M-S5076	75 $\pm$ 20%	700	800	10	5	5	15	300	52	1	1
3R090M-S5076	90 $\pm$ 20%	600	700	10	5	5	15	300	52	1	1
3R120M-S5076	120 $\pm$ 20%	600	700	10	5	5	15	300	52	1	1
3R130M-S5076	130 $\pm$ 20%	600	700	10	5	5	15	300	52	1	1
3R145M-S5076	145 $\pm$ 20%	600	700	10	5	5	15	300	52	1	1
3R230M-S5076	230 $\pm$ 20%	600	700	10	5	5	15	300	80	1	1
3R250M-S5076	250 $\pm$ 20%	600	700	10	5	5	15	300	80	1	1
3R300M-S5076	300 $\pm$ 20%	700	900	10	5	5	15	300	150	1	1
3R350M-S5076	350 $\pm$ 20%	700	900	10	5	5	15	300	150	1	1
3R400M-S5076	400 $\pm$ 20%	800	1000	10	5	5	15	300	150	1	1
3R500M-S5076	500 $\pm$ 20%	900	1100	10	5	5	15	300	150	1	1
3R600M-S5076	600 $\pm$ 20%	1300	1500	5	2.5	2.5	5	300	150	1	1
3R800M-S5076	800 $\pm$ 20%	1500	1700	5	2.5	2.5	5	300	150	1	1

Electrical Ratings

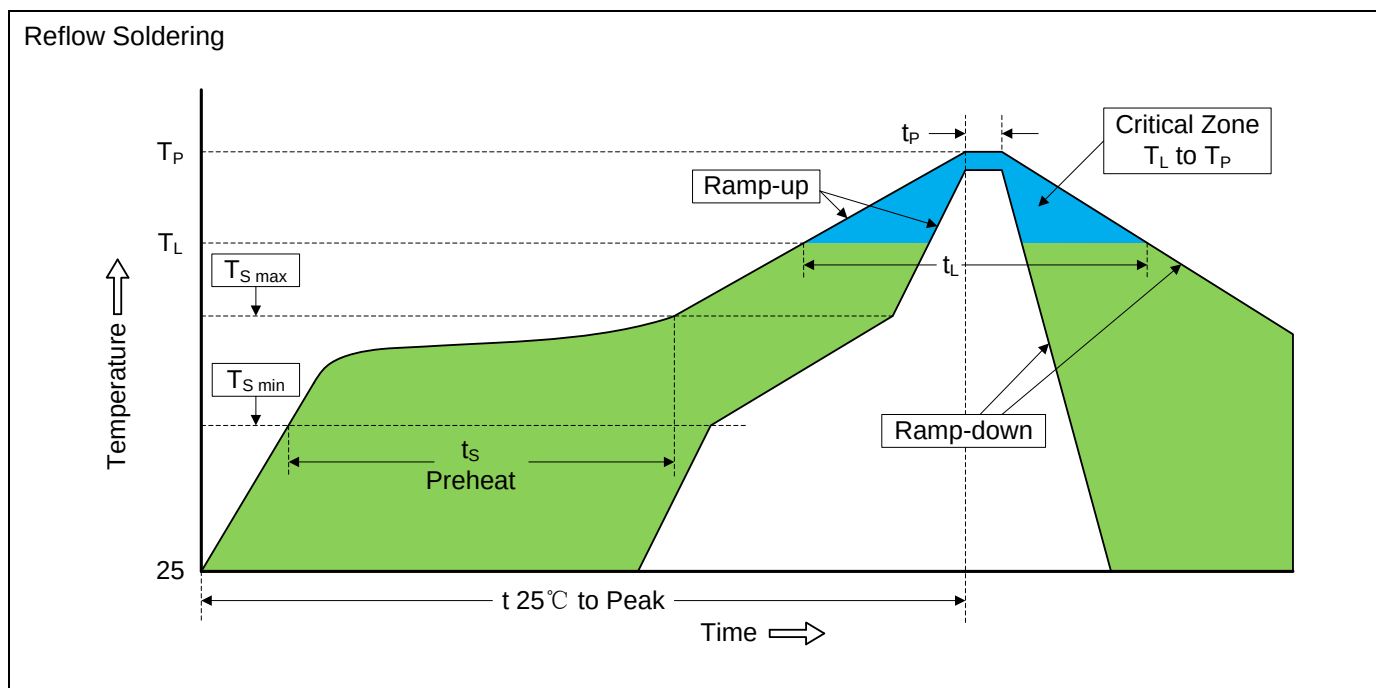
Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Insulation Resistance	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	
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, without causing the DC spark-over voltage to change more than 30% from its initial value.	
Impulse Withstanding Voltage	The maximum $10/700\mu s$ surge that can be applied to the Gas Tube, 5 positive and 5 negative surges, with 1 minute interval time, without causing the DC spark-over voltage to change more than 25% from its initial value.	

Reliability

Items	Test conditions / Methods	Standard
Cold Resistance	Measurement after $-40^{\circ}C/1000$ HRS & normal temperature/2 HRS.	Features are conformed to rated spec.
Heat Resistance	Measurement after $125^{\circ}C/1000$ HRS & normal temperature/2 HRS.	
Humidity Resistance	Measurement after humidity $90\sim95^{\circ}C(45^{\circ}C)/1000$ HRS & normal temperature/2 HRS.	
Temperature Cycle	10 times repetition of cycle $-40^{\circ}C/30min \rightarrow$ normal, temp/2 min $\rightarrow 125^{\circ}C/30min$, measurement after normal temp/2 HRS.	
Solder Ability	Check for solder adhesion after $260\pm5^{\circ}C$ for 3sec, The body immersion depth 1.5mm in molten solder	Evenly covered by solder.
Solder Heat	Measurement after $260\pm5^{\circ}C$ solder for 10sec, The body immersion depth 1.5mm in molten solder	Conformed to rated spec.



Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150°C
-Temperature Max ($T_{S\ max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.



Packaging

Tape	Symbol	Dimension (mm)	
		Spec.	Tolerance
	W	16.00	±0.20
	P0	4.00	±0.10
	P1	12.00	±0.10
	P2	2.00	±0.10
	D0	1.50	±0.10
	E	1.75	±0.10
	F	7.50	±0.10
	A0	5.40	±0.10
	B0	8.00	±0.10
	K0	5.40	±0.10
	t0	0.50	±0.10
	D	330.00	±1.00
	d	13.00	±0.50
	L	20.00	±0.50
	t	2.00	±0.20
	Quantity: 1000pcs		