



2R-S6242 Series Gas Discharge Tube(GDT)

Features

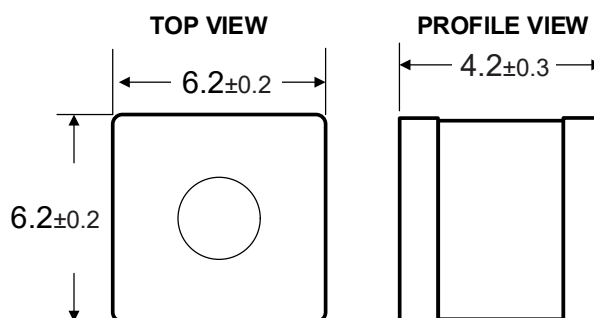
- 2-electrode arrester
- High insulation resistance
- Extremely fast response time
- Low capacitance ($\leq 1\text{pF}$)
- surge current 6KA 8/20us
- Storage and operating temperature:
 $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- RoHS compliant
- Meets MSL level 1



Applications

- Repeaters, Modems
- Telephone Interface, Line cards
- Data communication equipment
- Line test equipment

Dimensional drawing



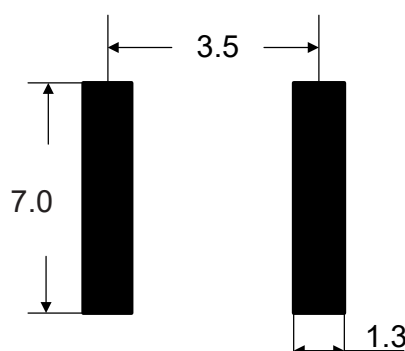
PartNumber Code

2R090N-S6242

- 2R:2-electrode arrester
- 090: DC Spark-over Voltage 90V
- M: Tolerance of DC Spark-Over Voltage
M:20% N: 30%
- S:SMD
- 6242: Size: 6.2mm*6.2mm*4.2mm

SOLDER PAD LAYOUT

Dimensions in mm



Electrical Characteristics

Part Number	DC Spark-over Voltage	Max.Impulse Spark-over Voltage	Impulse Discharge Current (8/20us)		AC discharge Current 50Hz, 1S	Impulse Life 10/1000us	Minimum Insulation Resistance		Max. Capacitance 1MHz
	100V/S	1KV /us	Nominal ±5times	Max 1 times	Nominal 5 times	100A			
	%	V	KA	KA	A	Times	DC(V)	(GΩ)	(pF)
2R075M-S6242	75V±20%	600	5	6	5	200	25	1	1
2R090M-S6242	90V±20%	600	5	6	5	200	50	1	1
2R150M-S6242	150V±20%	600	5	6	5	200	50	1	1
2R230M-S6242	230V±20%	700	5	6	5	200	100	1	1
2R300M-S6242	300V±20%	800	5	6	5	200	100	1	1
2R350M-S6242	350V±20%	850	5	6	5	200	250	1	1
2R400M-S6242	400V±20%	900	5	6	5	200	250	1	1
2R470M-S6242	470V±20%	90	5	6	5	200	250	1	1
2R600M-S6242	600V±20%	1000	5	6	5	200	250	1	1
2R800M-S6242	800V±20%	1400	5	6	5	200	250	1	1

Electrical Ratings

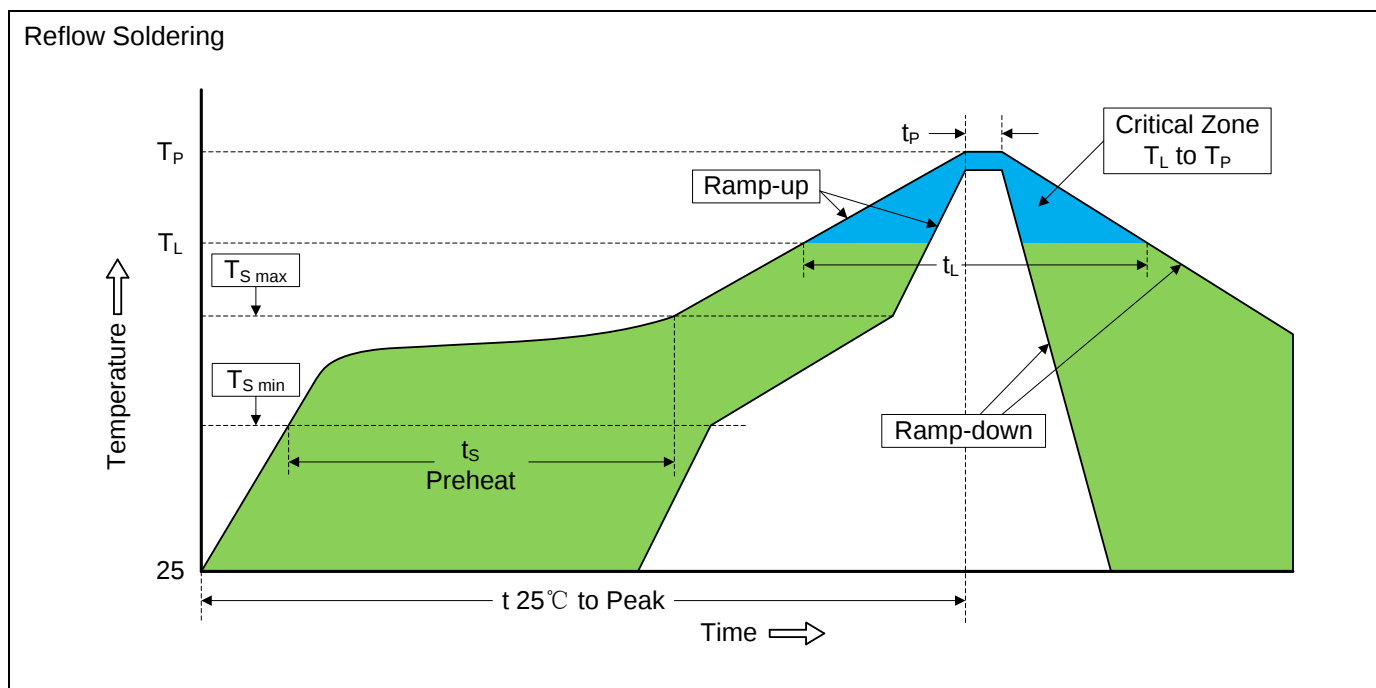
Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Insulation Resistance	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

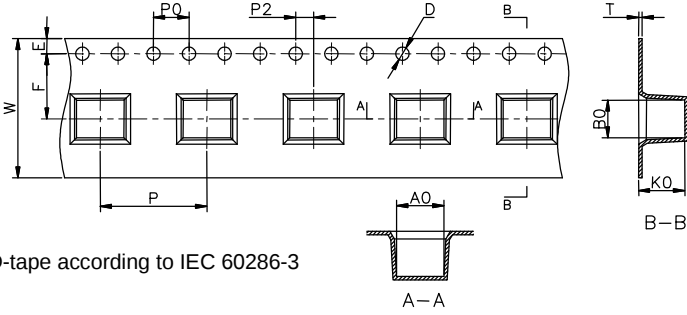


Recommended Conditions

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	Items	Dimension (mm)	
		Spec.	Tolerance
 SMD-tape according to IEC 60286-3	W	16.0	±0.30
	A0	4.60	±0.10
	B0	6.50	±0.10
	K0	6.70	±0.10
	P	12.0	±0.10
	F	7.50	±0.10
	E	1.75	±0.10
	D	1.50	±0.10
	P0	4.00	±0.10
	P2	2.00	±0.10
	T	0.50	±0.10
Reel	D0	13.30	±0.15
	D1	330.0	±2.00
	D2	100.0	±2.00
	W1	16.50	±0.40
	Quantity: 800pcs		