

Gas Discharge Tube (GDT) Data Sheet

Features

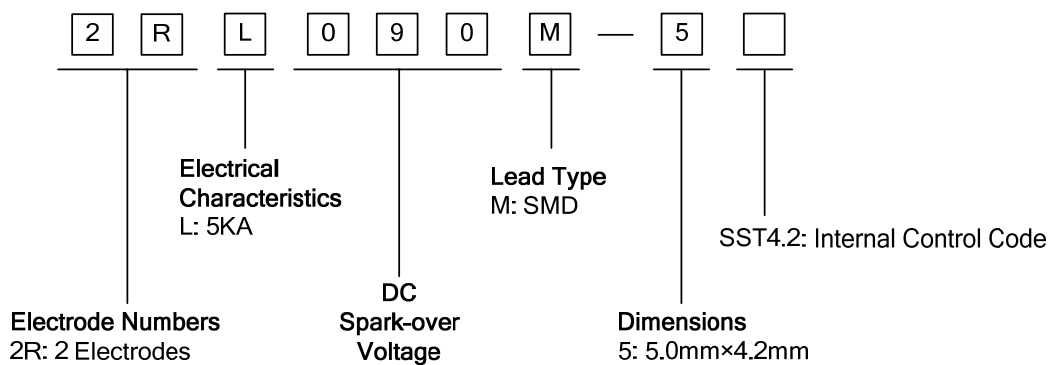
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/ μ s.
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance ($\leq 1\text{pF}$)
- High holdover voltage
- Large absorbing transient current capability.
- Micro-Gap Design
- Size: 5.0mm*4.2mm
- Square ceramic tube for SMD
- Storage and operating temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- Meets MSL level 1, per J-STD-020



Applications

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

Part Number Code



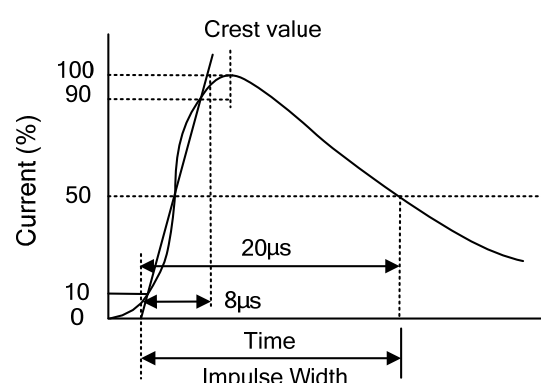
Dimensions

<p style="text-align: center;">Recommended Pad Size</p>	Symbol	Dimension (mm)	
		Spec.	Tolerance
	D	5.0	± 0.2
	T	4.2	± 0.3
B	0.5	± 0.1	

Electrical Characteristics

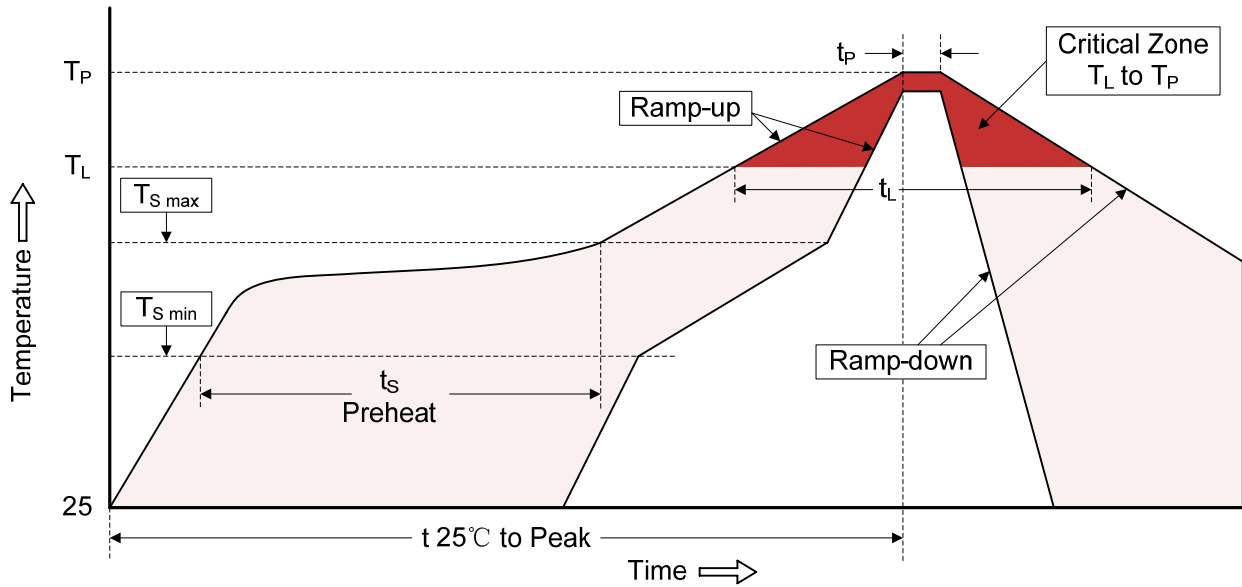
Model Number: 2RL090M-5				Part Number: 2RL090M-5 SST4.2				
DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance	Arc Voltage
100V/s	1000V/ μ s	8/20 μ s \pm 5times	50Hz, 1sec	10/1000 μ s 100A	Test Voltage	(G Ω)	1MHz	@1A
(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)	(V)
90 \pm 20%	650	5.0	5.0	500	50	1.0	1.0	~8

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	<p>Maximum 8/20μs 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 25% from its initial value.</p> 	
Alternating Discharge Current	<p>Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min. DC spark-over voltage shall not change more than $\pm 25\%$ from its initial value.</p> <p>$IR > 10^8$ ohms (-20%, +30% for 70~90V).</p>	
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	

Recommended Soldering Conditions

Reflow Soldering



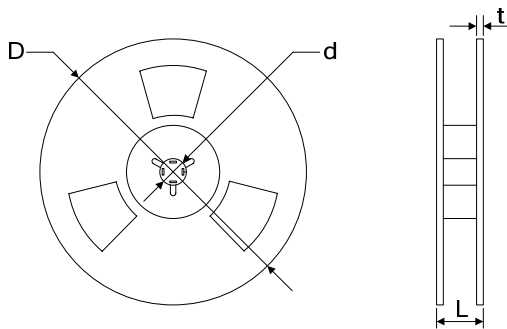
Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 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	5.30	±0.10
	B0	4.50	±0.10
	K0	5.40	±0.10
	t0	0.40	±0.10
	D	330.00	±1.00
	d	13.00	±0.50
	L	20.00	±0.50
t	2.00	±0.20	
Quantity: 800pcs			

Reel



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