

Gas Discharge Tube (GDT) Data Sheet

Features

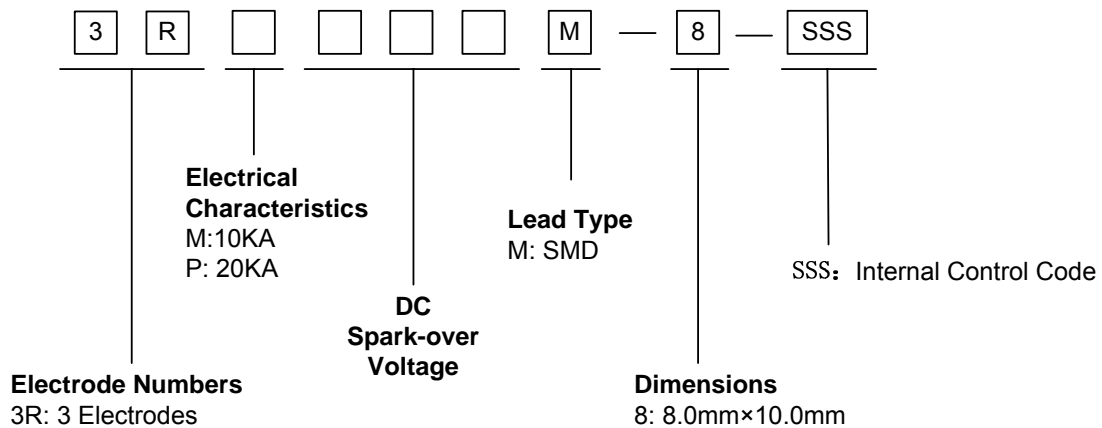
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/ μ s.
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance ($\leq 2\text{pF}$)
- High holdover voltage
- Large absorbing transient current capability.
- Micro-Gap Design
- Size: 8.0mm*10.0mm
- Storage and operating temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- Meets MSL level 1, per J-STD-020
- Safety certification: E244458



Applications

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

Part Number Code



Dimensions

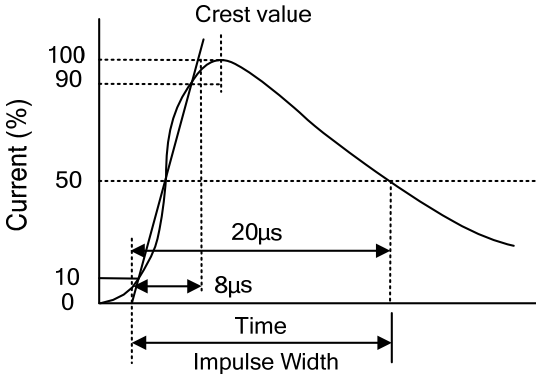
Symbol	Dimension (mm)	
	Spec.	Tolerance
D	8.0	+0.2, -0.8
D1	7.9	± 0.2
T	10.0	± 0.5
B	0.5	± 0.1
B1	1.5	± 0.2

Electrical Characteristics

Part Number	Type ①	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance	Device Marking Code
		100V/s	1000V/μs	8/20μs 10times	50Hz, 1sec	10/1000μs 100A	Test Voltage	(GΩ)	1MHz	
		(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)	
3RM075M-8	SSS	75±20%	700	10	10	300	25	1.0	2.0	None
3RM090M-8	SSS	90±20%	700	10	10	300	50	1.0	2.0	None
3RM150M-8	SSS	150±20%	700	10	10	300	100	1.0	2.0	None
3RM200M-8	SSS	200±20%	700	10	10	300	100	1.0	2.0	None
3RM230M-8	SSS	230±20%	800	10	10	300	100	1.0	2.0	None
3RM350M-8	SSS	350±20%	850	10	10	300	100	1.0	2.0	None
3RM400M-8	SSS	400±20%	850	10	10	300	100	1.0	2.0	None
3RM470M-8	SSS	470±20%	950	10	10	300	250	1.0	2.0	None
3RM600M-8	SSS	600±20%	1300	10	10	300	250	1.0	2.0	None
3RM800M-8	SSS	800±20%	1500	10	10	300	250	1.0	2.0	None
3RP075M-8	SSS	75±20%	700	20	20	300	25	1.0	2.0	None
3RP090M-8	SSS	90±20%	700	20	20	300	50	1.0	2.0	None
3RP150M-8	SSS	150±20%	700	20	20	300	100	1.0	2.0	None
3RP200M-8	SSS	200±20%	700	20	20	300	100	1.0	2.0	None
3RP230M-8	SSS	230±20%	800	20	20	300	100	1.0	2.0	None
3RP350M-8	SSS	350±20%	850	20	20	300	100	1.0	2.0	None
3RP400M-8	SSS	400±20%	850	20	20	300	100	1.0	2.0	None
3RP470M-8	SSS	470±20%	950	20	20	300	250	1.0	2.0	None
3RP600M-8	SSS	600±20%	1300	20	20	300	250	1.0	2.0	None
3RP800M-8	SSS	800±20%	1500	20	20	300	250	1.0	2.0	None

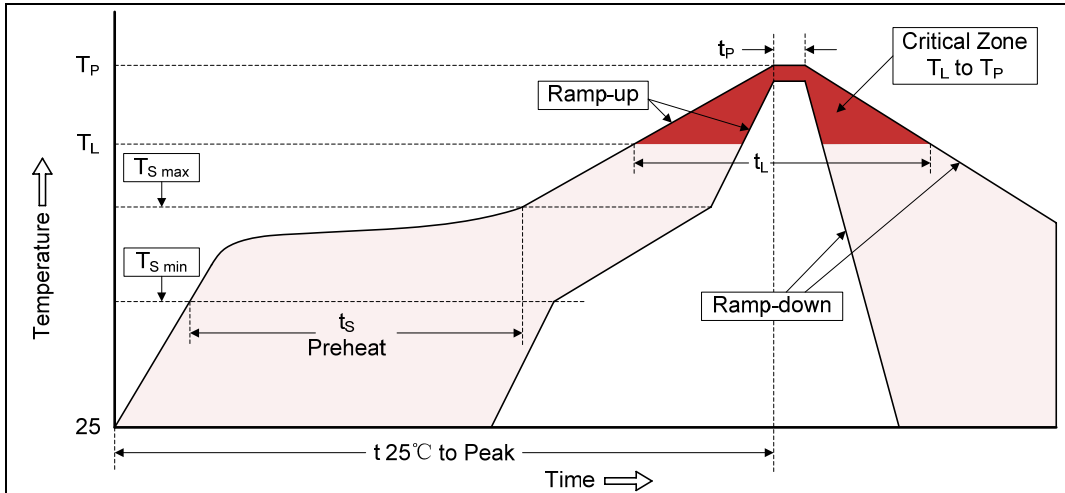
Notes: ① Specific code by request.

Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$. Test is between each side electrode and center electrode.	
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$. Test is between each side electrode and center electrode.	
Impulse Discharge Current	<p>Maximum surge current that can be applied through center electrode with 8/20μs waveform, for 10 times with 3min interval time, which will be equally divided between each side electrode to center electrode.</p> 	To meet the specified value
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min. Test is between each side electrode and center electrode.	
Insulation Resistance	The resistance of gas tube shall be measured between each side electrodes and center electrode.	
Capacitance	The capacitance of gas tube shall be measured between each side electrodes and center electrode. Test frequency: 1MHz	

Recommended Soldering Conditions

Reflow Soldering



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

SMD Packing (Tape & Reel)

Tape	Symbol	Dimension (mm)		
		Spec.	Tolerance	
	W	16.00	±0.20	
	P0	4.00	±0.10	
	P1	16.00	±0.10	
	P2	2.00	±0.10	
	D0	1.55	±0.05	
	E	1.75	±0.10	
	F	7.50	±0.10	
	A0	11.6	±0.10	
	K0	8.90	±0.10	
	B0	8.60	±0.10	
	B1	10.00	±0.10	
	t0	0.50	±0.05	
	Reel	D	330.00	±1.00
		d	13.00	±0.50
		L	20.00	±0.50
		t	2.00	±0.20
			Quantity: 300pcs	