

DATA SHEET

GAS DISCHARGE TUBES
TELEPHONE INTERFACE

3R-8-SSS series

RoHS compliant & free



Product specification— July 12, 2023 V.1



Gas Discharge Tube (GDT) Data Sheet

Features

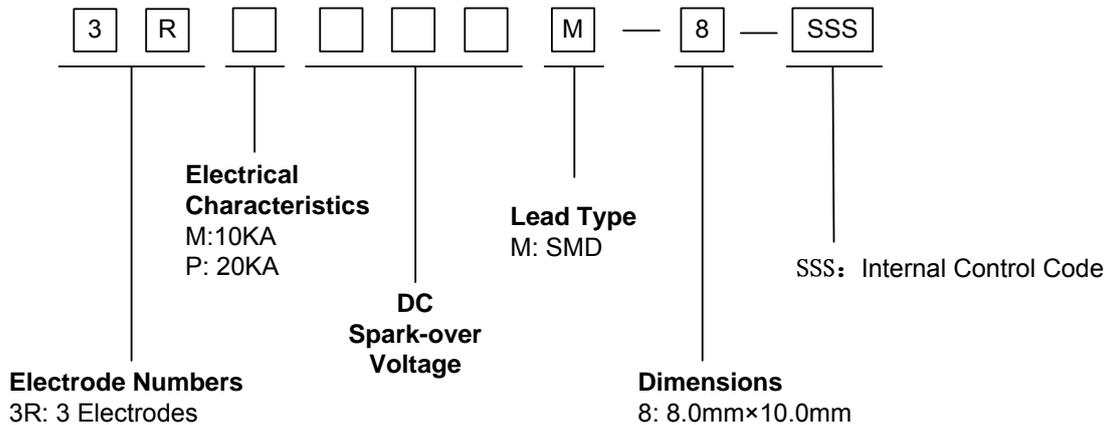
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance (≤2pF)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 8.0mm*10.0mm
- Storage and operating temperature: -40°C ~ +85°C
- Meets MSL level 1, per J-STD-020
- Safety certification: UL



Applications

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

Part Number Code



Dimensions

M Type	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

GAS DISCHARGE TUBS

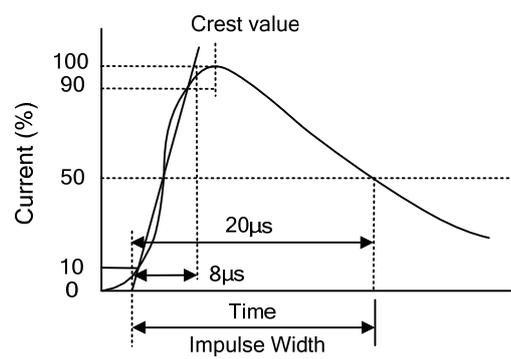
3R-8-SSS series

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%	900	10	10	300	100	1.0	2.0	None
3RM400M-8	SSS	400±20%	1000	10	10	300	100	1.0	2.0	None
3RM470M-8	SSS	470±20%	1100	10	10	300	250	1.0	2.0	None
3RM600M-8	SSS	600±20%	1300	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%	900	20	20	300	100	1.0	2.0	None
3RP400M-8	SSS	400±20%	1000	20	20	300	100	1.0	2.0	None
3RP470M-8	SSS	470±20%	1100	20	20	300	250	1.0	2.0	None
3RP600M-8	SSS	600±20%	1300	20	20	300	250	1.0	2.0	None

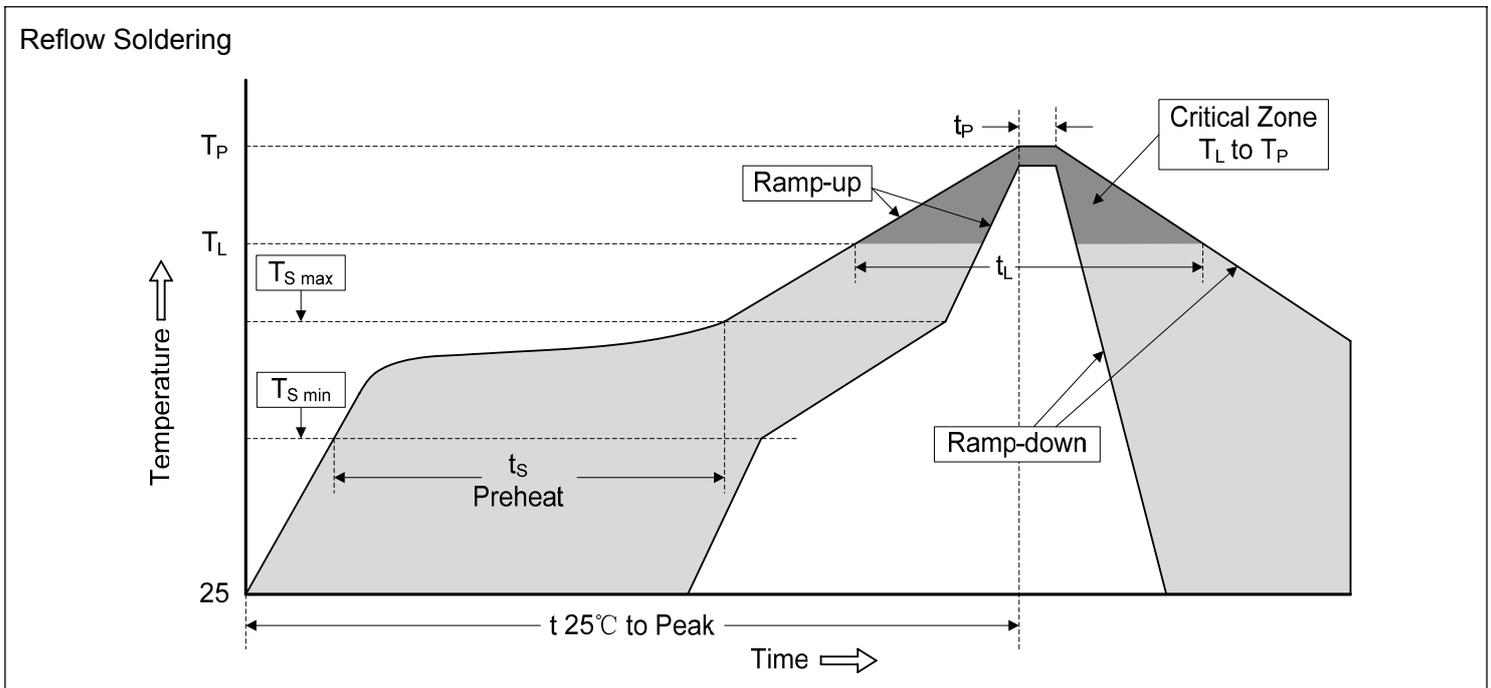
Notes: ① Specific code by request.

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.	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. Test is between each side electrode and center electrode.	

<p>Impulse Discharge Current</p>	<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> 	
<p>Alternating Discharge Current</p>	<p>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.</p>	
<p>Insulation Resistance</p>	<p>The resistance of gas tube shall be measured between each side electrodes and center electrode.</p>	
<p>Capacitance</p>	<p>The capacitance of gas tube shall be measured between each side electrodes and center electrode. Test frequency: 1MHz</p>	

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 ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (ts)	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

SMD Packing (Tape & Reel)

Tape	Symbol	Dimension (mm)		
		Spec.	Tolerance	
	W	16.00	±0.20	
	P0	4.00	±0.10	
	P	16.00	±0.10	
	P2	2.00	±0.10	
	D0	1.55	±0.10	
	E	1.75	±0.10	
	F	7.50	±0.10	
	A0	10.30	±0.10	
	K0	8.40	±0.10	
	B0	8.40	±0.10	
	T	0.50	±0.05	
		D	330.00	±2.00
		d	13.00	±0.50
		L	20.00	±2.00
t		2.00	±0.20	
Quantity: 300pcs				

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