

DATA SHEET

GAS DISCHARGE TUBES

TELEPHONE INTERFACE

2R-5-SST4.2 series

RoHS compliant & free



Product specification- July 12, 2023 V.1



Gas Discharge Tube (GDT) Data Sheet

Features

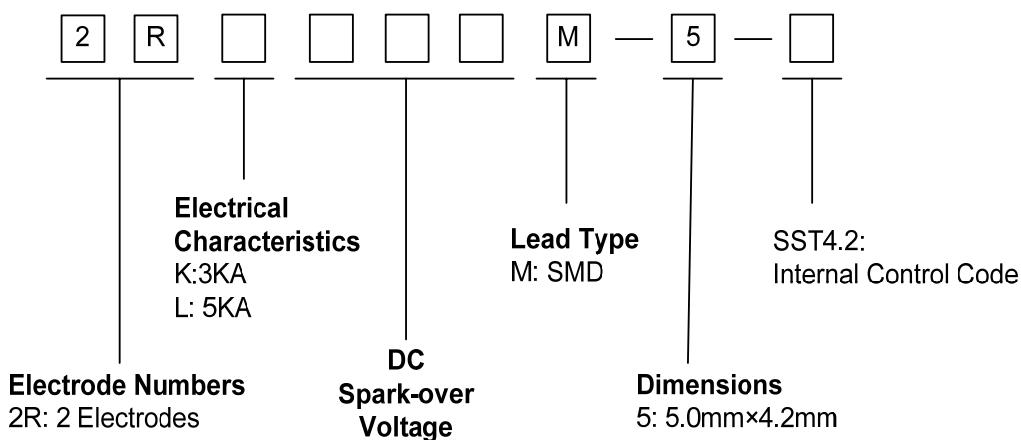
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance ($\leq 1\text{pF}$)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 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
- Safety certification: UL



Applications

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

Part Number Code



Dimensions

Symbol	Dimension (mm)	
	Spec.	Tolerance
D	5.0	± 0.2
T	4.2	± 0.3
B	0.5	± 0.1

M Type

Recommended Pad Size

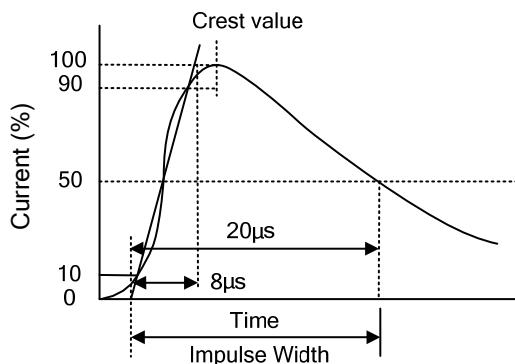
Electrical Characteristics

Part Number	Type ①	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Minimum Insulation Resistance		Maximum Capacitance	Device Marking Code
		100V/s	1000V/μs	8/20μs ±5times	Test Voltage (GΩ)	1MHz (pF)		
		(V)	(V)	(KA)	DC(V)			
2RL075M-5	SST4.2	75±20%	700	5.0	25	1.0	1.0	None
2RL090M-5	SST4.2	90±20%	650	5.0	50	1.0	1.0	None
2RL120M-5	SST4.2	120±20%	700	5.0	50	1.0	1.0	None
2RL150M-5	SST4.2	150±20%	700	5.0	100	1.0	1.0	None
2RL230M-5	SST4.2	230±20%	700	5.0	100	1.0	1.0	None
2RL250M-5	SST4.2	250±20%	700	5.0	100	1.0	1.0	None
2RL300M-5	SST4.2	300±20%	800	5.0	100	1.0	1.0	None
2RL350M-5	SST4.2	350±20%	850	5.0	100	1.0	1.0	None
2RL400M-5	SST4.2	400±20%	900	5.0	100	1.0	1.0	None
2RL470M-5	SST4.2	470±20%	1000	5.0	250	1.0	1.0	None
2RL600M-5	SST4.2	600±20%	1200	5.0	250	1.0	1.0	None
2RK800M-5	SST4.2	800±20%	1600	3.0	250	1.0	1.0	None
2RK1000M-5	SST4.2	1000±20%	1800	3.0	500	1.0	1.0	None

Notes: ① Specific code by request.

Electrical Ratings

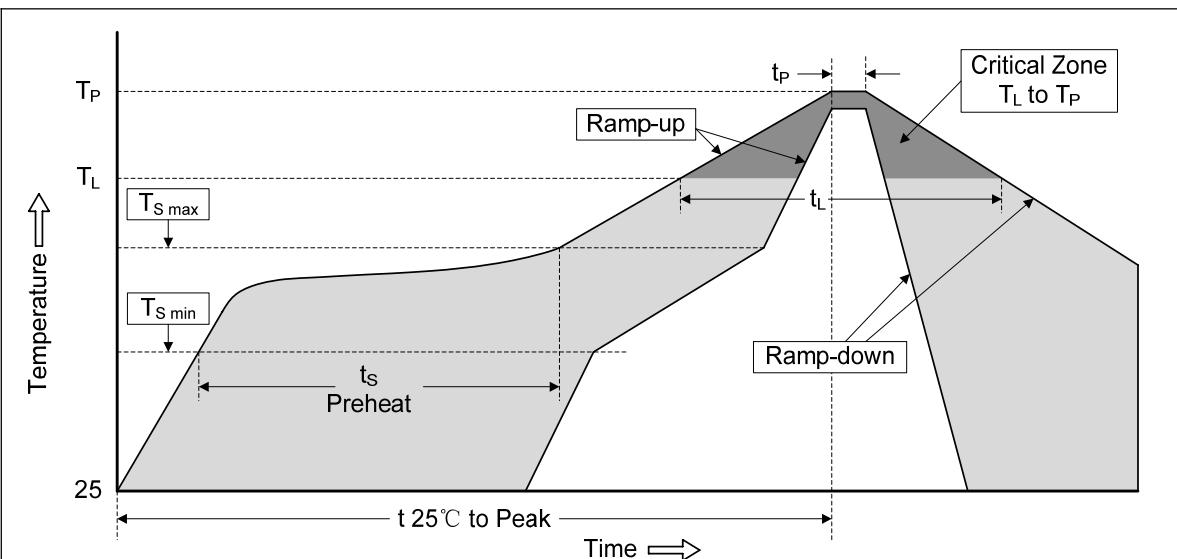
Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Impulse Discharge Current	Maximum 8/20μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time.	



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

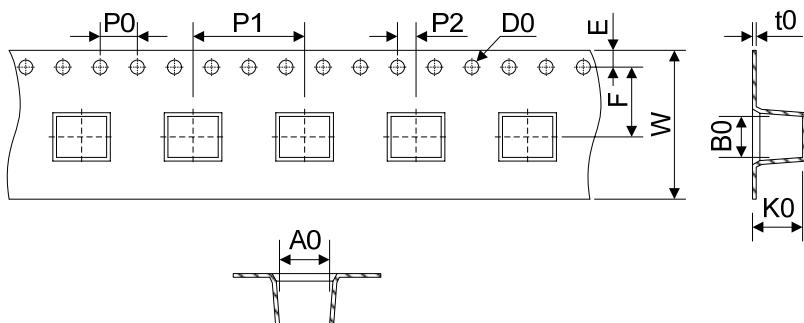
Reflow Soldering



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.

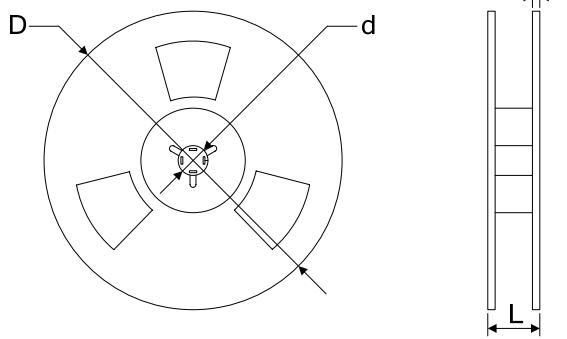
Packaging

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	1.55	± 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

Reel



D	330.00	± 2.00
d	13.00	± 0.50
L	20.00	± 2.00
t	2.00	± 0.20

Quantity: 800pcs

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