Innovative Service Around the Globe YAGEO

DATA SHEET

GAS DISCHARGE TUBES
TELEPHONE INTERFACE

3R-3-SSS series

RoHS compliant & free



Product specification– February 02, 2021 V.1

Gas Discharge Tube (GDT) Data Sheet

Features

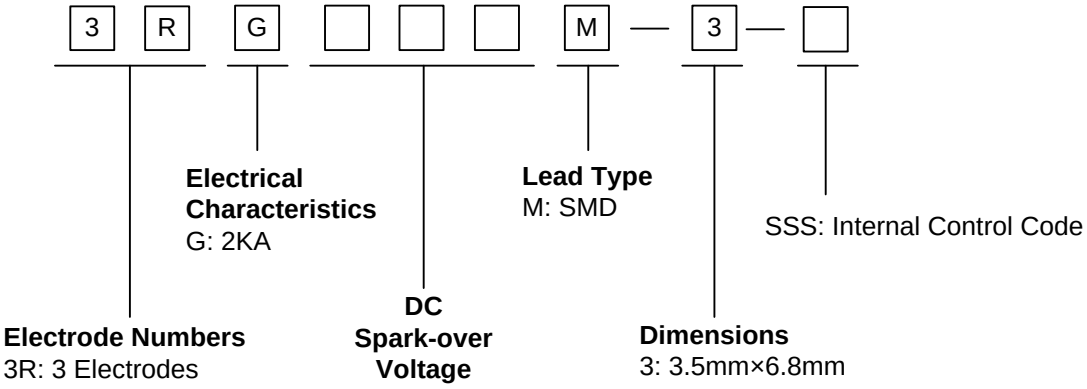


- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance (≤1pF)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size:3.5mm*6.8mm
- Storage and operating temperature: -40℃ ~ +85℃
- Meets MSL level 1, per J-STD-020
- Safety certification: UL

Applications

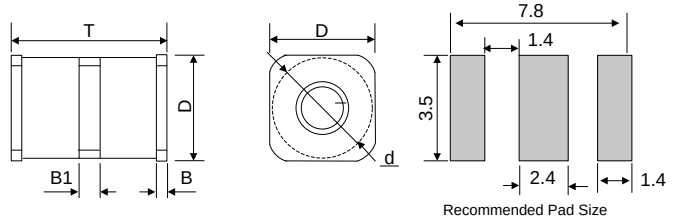
- Repeaters, Modems
- Telephone Interface, Line cards
- Data communication equipment
- Line test equipment

Part Number Code



Dimensions

M Type



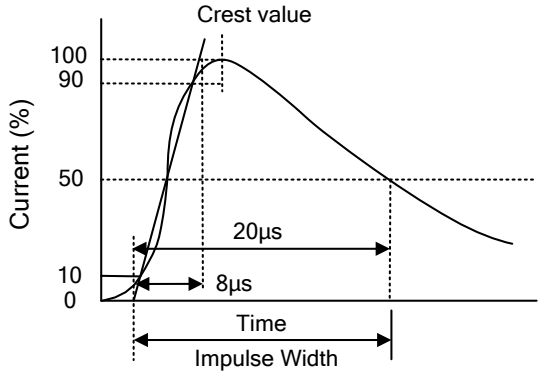
Symbol	Dimension (mm)	
	Spec.	Tolerance
D	3.5	±0.2
T	6.8	±0.2
B	0.4	±0.2
B1	1.2	±0.2
d	3.5	±0.2

Electrical Characteristics

Part Number	Type ①	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance	Device Marking Code
		100V/s	1000V/μs	8/20μs 10times	8/20μs 100A	Test Voltage	(GΩ)	1MHz	
		(V)	(V)	(KA)	(times)	DC(V)		(pF)	
3RG090M-3	SSS	90±30%	700	2	300	50	1.0	1.0	None
3RG150M-3	SSS	150±30%	800	2	300	100	1.0	1.0	None
3RG200M-3	SSS	200±30%	850	2	300	100	1.0	1.0	None
3RG230M-3	SSS	230±30%	850	2	300	100	1.0	1.0	None
3RG300M-3	SSS	300±30%	900	2	300	100	1.0	1.0	None
3RG350M-3	SSS	350±30%	1000	2	300	100	1.0	1.0	None
3RG400M-3	SSS	400±30%	1200	2	300	100	1.0	1.0	None
3RG420M-3	SSS	360~560	1200	2	300	100	1.0	1.0	None
3RG470M-3	SSS	470±30%	1500	2	300	100	1.0	1.0	None

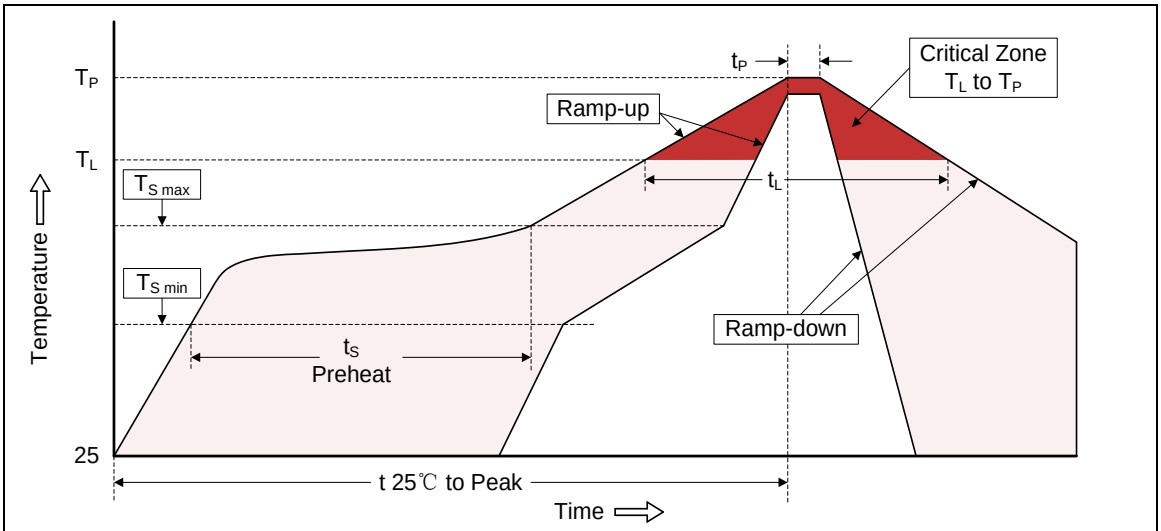
Notes：① Specific code by request.

Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp dv/dt=100V/s. 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.	
Impulse Discharge Current	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. 	
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

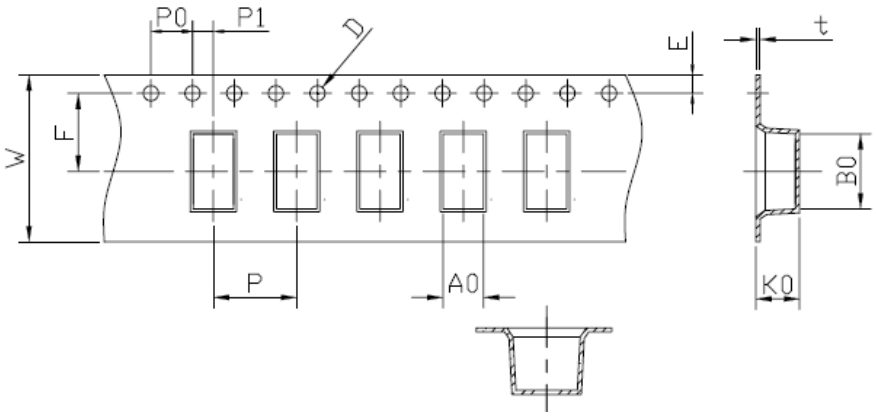
Reflow Soldering



Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (ts)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

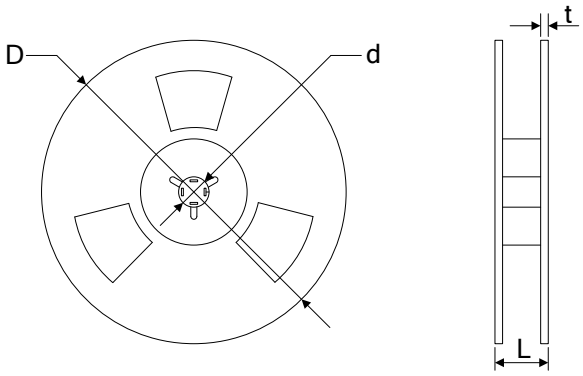
Packaging

Tape



Symbol	Dimension (mm)	
	Spec.	Tolerance
W	16.00	±0.20
P0	4.00	±0.20
P1	2.00	±0.20
P	8.00	±0.20
D	1.5	±0.20
E	1.75	±0.20
F	7.50	±0.20
A0	3.90	±0.20
K0	3.80	±0.20
B0	7.20	±0.20
t	0.50	±0.20

Reel



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

Quantity: 2000pcs

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