

DATA SHEET

GAS DISCHARGE TUBES TELEPHONE INTERFACE

2R-4-H3.5 series

RoHS compliant & free



Product specification— February 02, 2021 V.1



Gas Discharge Tube (GDT) Data Sheet

Features

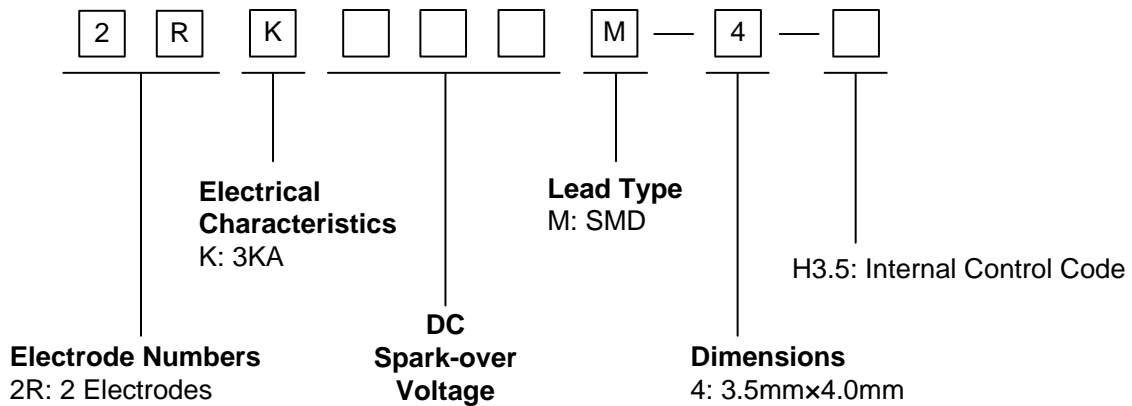
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance (≤0.5pF)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 3.5mm*4.0mm
- Storage and operational 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

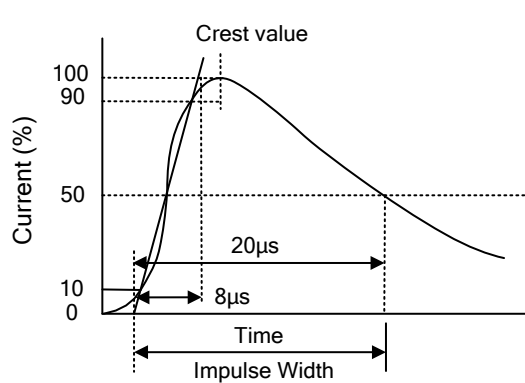
<p>M Type</p> <p style="text-align: center;">Recommended Pad Size</p>	Dimension (mm)		
	Symbol	Spec.	Tolerance
	D	3.5	±0.2
	T	4.0	±0.3
B	0.4	±0.2	

Electrical Characteristics

Part Number	Type ①	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Impulse Discharge Voltage	Minimum Insulation Resistance		Maximum Capacitance	Device Marking Code
		100V/s	1000V/μs	8/20μs 10times	10/700μs 10times	Test Voltage	(GΩ)	1MHz	
		(V)	(V)	(KA)	(KV)	DC(V)		(pF)	
2RK090M-4	H3.5	90±30%	650	3	6	50	1	0.5	None
2RK150M-4	H3.5	150±30%	650	3	6	100	1	0.5	None
2RK200M-4	H3.5	200±30%	750	3	6	100	1	0.5	None
2RK250M-4	H3.5	250±30%	750	3	6	100	1	0.5	None
2RK300M-4	H3.5	300±30%	850	3	6	100	1	0.5	None
2RK350M-4	H3.5	350±30%	850	3	6	100	1	0.5	None
2RK400M-4	H3.5	400±30%	900	3	6	100	1	0.5	None
2RK470M-4	H3.5	470±30%	1000	3	6	250	1	0.5	None

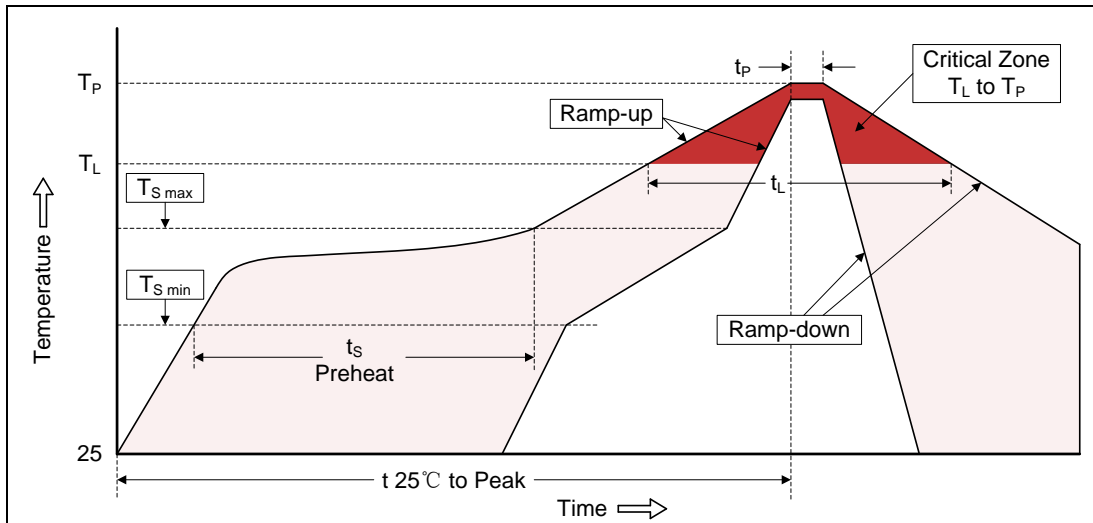
Notes: ① Specific code by request.

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 ($T_{S\ min}$) -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
	P	8.00	±0.10
	P0	4.00	±0.10
	P1	2.00	±0.10
	D	1.50	+0.10/-0
	E	1.75	±0.10
	F	7.50	±0.10
	A0	3.80	±0.10
	B0	4.30	±0.10
	K0	3.80	±0.10
	t	0.30	±0.10
	D	330.00	±2.00
	d	13.00	±0.50
L	16.00	±2.00	
t	2.00	±0.20	
Quantity: 2000pcs			

Reel	Symbol	Dimension (mm)	Tolerance
	D	330.00	±2.00
	d	13.00	±0.50
	L	16.00	±2.00
	t	2.00	±0.20
	Quantity: 2000pcs		