

Gas Discharge Tube (GDT) Data Sheet

Features

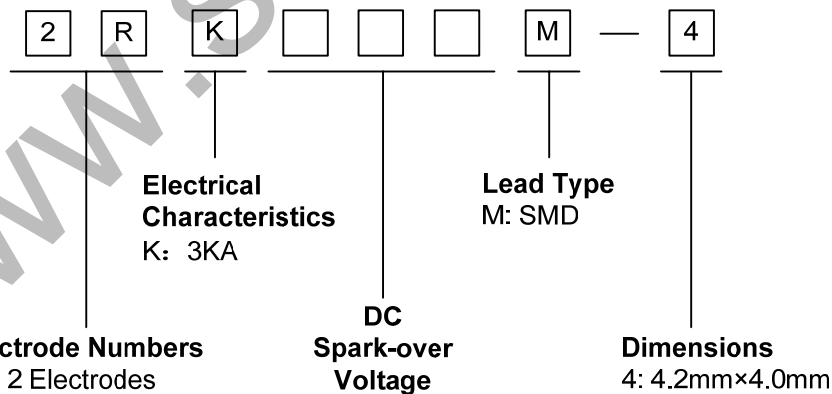
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs.
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance (≤1pF)
- High holdover voltage
- Large absorbing transient current capability.
- Micro-Gap Design
- Size: 4.2mm*4.0mm
- Storage and operational temperature: -40°C ~ +85°C
- Meets MSL level 1, per J-STD-020
- Safety certification: UL: E244458



Applications

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

Part Number Code



Marking

090 : Device Marking Code
YXXX : Date Code

Dimensions

	Symbol	Dimension (mm)	
		Spec.	Tolerance
	D	4.2	±0.5
	T	4.0	±0.4
	B	0.4	±0.1
d	3.9	±0.1	

Electrical Characteristics

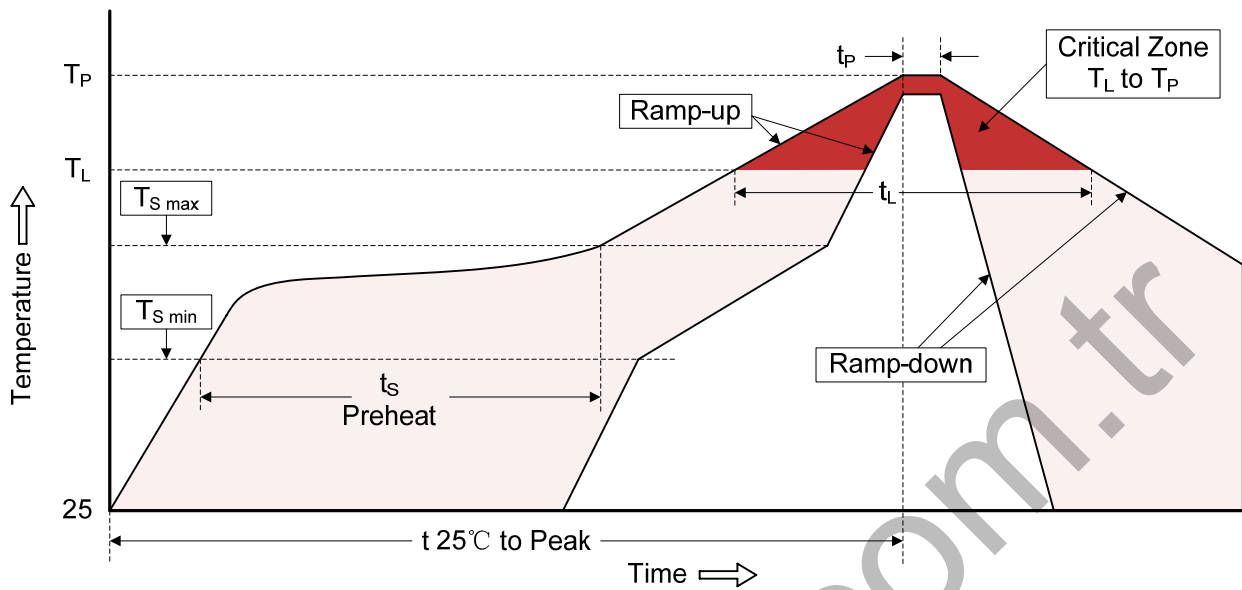
Part Number	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance	Device Marking Code
	100V/s	1000V/μs	8/20μs 10times	50Hz, 1sec	10/1000μs 100A	Test Voltage	(GΩ)	1MHz	
	(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)	
2RK075M-4	75±20%	800	3	3	300	25	1	1.0	075
2RK090M-4	90±20%	800	3	3	300	50	1	1.0	090
2RK145M-4	145±20%	800	3	3	300	100	1	1.0	145
2RK230M-4	230±20%	700	3	3	300	100	1	1.0	230
2RK250M-4	250±20%	700	3	3	300	100	1	1.0	250
2RK300M-4	300±20%	800	3	3	300	100	1	1.0	300
2RK350M-4	350±20%	850	3	3	300	100	1	1.0	350
2RK400M-4	400±20%	900	3	3	300	100	1	1.0	400
2RK470M-4	470±20%	800	3	3	300	250	1	1.0	470
2RK600M-4	600±20%	1100	3	3	300	250	1	1.0	600
2RK800M-4	800±20%	1200	3	3	300	250	1	1.0	800
2RK1000M-4	1000±20%	1500	3	3	300	500	1	1.0	1000
2RK1200M-4	1200±20%	1900	3	3	300	500	1	1.0	1200

Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$.	
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Impulse Discharge Current	<p>Maximum $8/20\mu s$ surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time, without causing the DC spark-over voltage to change more than 25% from its initial value.</p> <p>The graph shows a typical 8/20 microsecond surge current waveform. The y-axis represents Current (%) from 0 to 100. The x-axis represents Time. The curve starts at 0, rises to a peak labeled 'Crest value' at 100%, and then decays. A horizontal dashed line at 50% current intersects the curve, and a vertical dashed line from that point to the x-axis is labeled '20μs'. Another horizontal dashed line at 10% current intersects the rising part of the curve, and a vertical dashed line from that point to the x-axis is labeled '8μs'. A horizontal double-headed arrow at the bottom, from the start of the rise to the 10% point on the decay, is labeled 'Impulse Width'.</p>	To meet the specified value
Alternating Discharge Current	<p>Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min. DC spark-over voltage shall not change more than $\pm 25\%$ from its initial value. $IR > 10^8$ ohms (-20%, +30% for 70~90V).</p>	
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



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) (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
	P0	4.00	±0.10
	P1	12.00	±0.20
	P2	2.00	±0.10
	D0	1.55	±0.05
	E	1.75	±0.10
	F	7.50	±0.10
	A0	4.27	±0.10
	K0	5.20	±0.10
	B0	4.45	±0.10
	t	0.50	±0.10
	D	330.00	±1.00
	d	13.00	±0.50
	L	20.00	±0.50
t	2.00	±0.20	
Quantity: 900pcs			

