

# DATA SHEET

## GAS DISCHARGE TUBES TELEPHONE INTERFACE

2R-6-T6 series

RoHS compliant & free



Product specification— July 12, 2023 V.1



## Gas Discharge Tube (GDT) Data Sheet

### Features

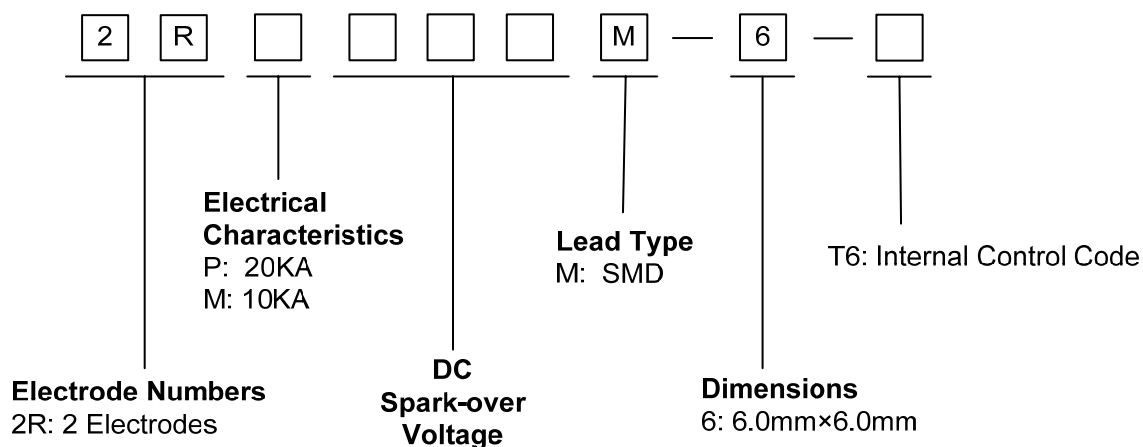
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs.
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance ( $\leq 1.0\text{pF}$ )
- High holdover voltage
- Large absorbing transient current capability.
- Micro-Gap Design
- Size: 6.0mm\*6.0mm
- 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

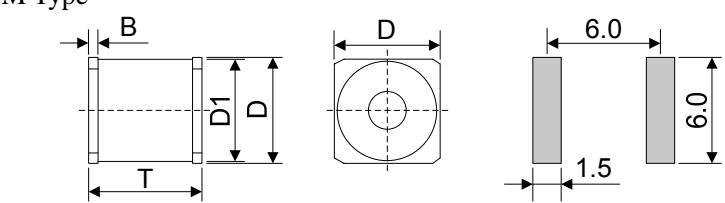
### Part Number Code



### Marking

**B** : BrightKing Logo  
 2RP090-6 : Device Marking Code  
 XXXX : Internal Control Code

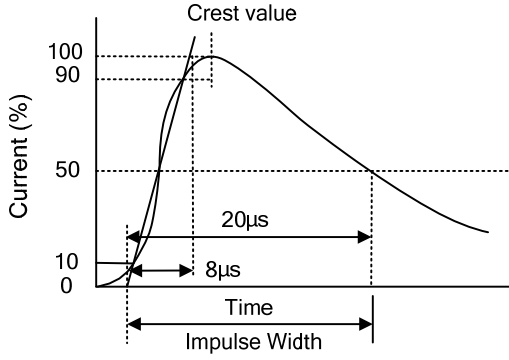
## Dimensions

M Type	Symbol	Dimension (mm)	
		Spec.	Tolerance
	D	6.0	±0.2
	D1	6.0	±0.2
	T	6.0	±0.2
	B	0.5	±0.2

## 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)	
2RP075M-6-T6	75±20%	650	20	10	300	50	1.0	1.0	2RP075-6
2RP090M-6-T6	90±20%	600	20	10	300	50	1.0	1.0	2RP090-6
2RM150M-6-T6	150±20%	750	10	5	300	100	1.0	1.0	2RM150-6
2RM230M-6-T6	230±20%	750	10	5	300	100	1.0	1.0	2RM230-6
2RM250M-6-T6	250±20%	800	10	5	300	100	1.0	1.0	2RM250-6
2RM300M-6-T6	300±20%	800	10	5	300	100	1.0	1.0	2RM300-6
2RM350M-6-T6	350±20%	850	10	5	300	100	1.0	1.0	2RM350-6
2RM400M-6-T6	400±20%	850	10	5	300	100	1.0	1.0	2RM400-6
2RM470M-6-T6	470±20%	850	10	5	300	100	1.0	1.0	2RM470-6
2RM600M-6-T6	600±20%	900	10	5	300	100	1.0	1.0	2RM600-6

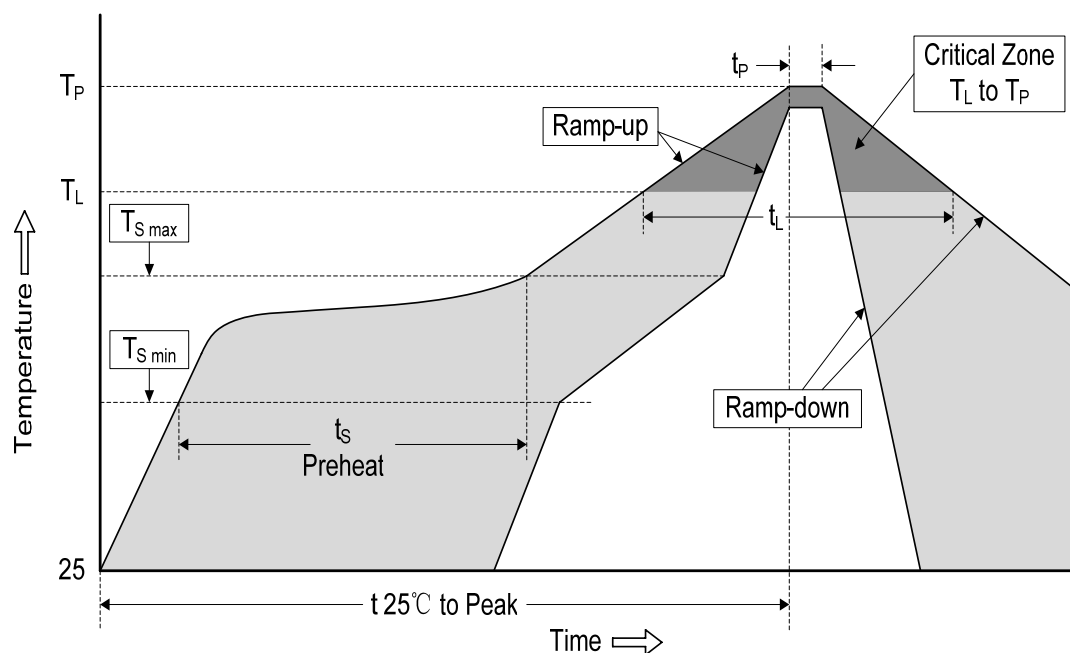
## Electrical Ratings

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	<p>Maximum 8/20μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time.</p> 	

Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min.
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

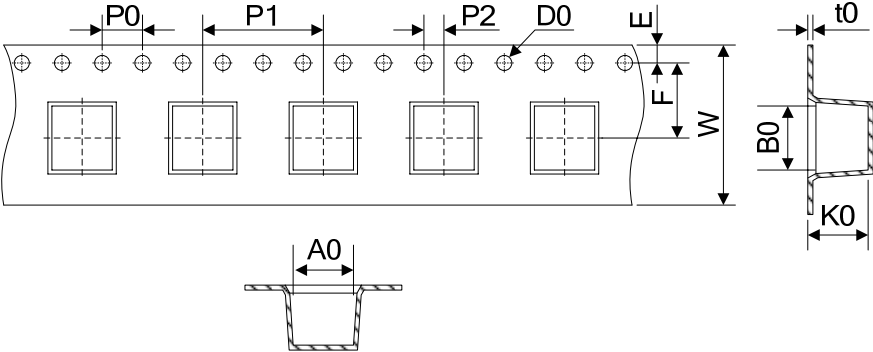
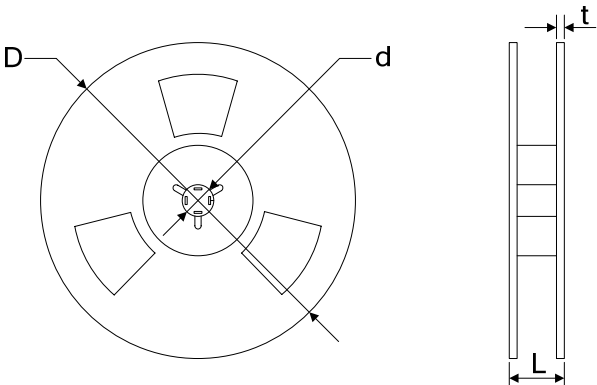
#### Reflow Soldering



#### 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 <div></div>	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	1.50	±0.1
	E	1.75	±0.10
	F	7.50	±0.10
	A0	6.30	±0.10
	B0	6.30	±0.10
	K0	6.30	±0.10
	t0	0.40	±0.10
Reel <div></div>	D	330.00	±1.00
	d	13.00	±0.50
	L	20.00	±0.50
	t	2.00	±0.20
	Quantity: 800pcs		

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