

Gas Discharge Tube (GDT) Data Sheet

Features

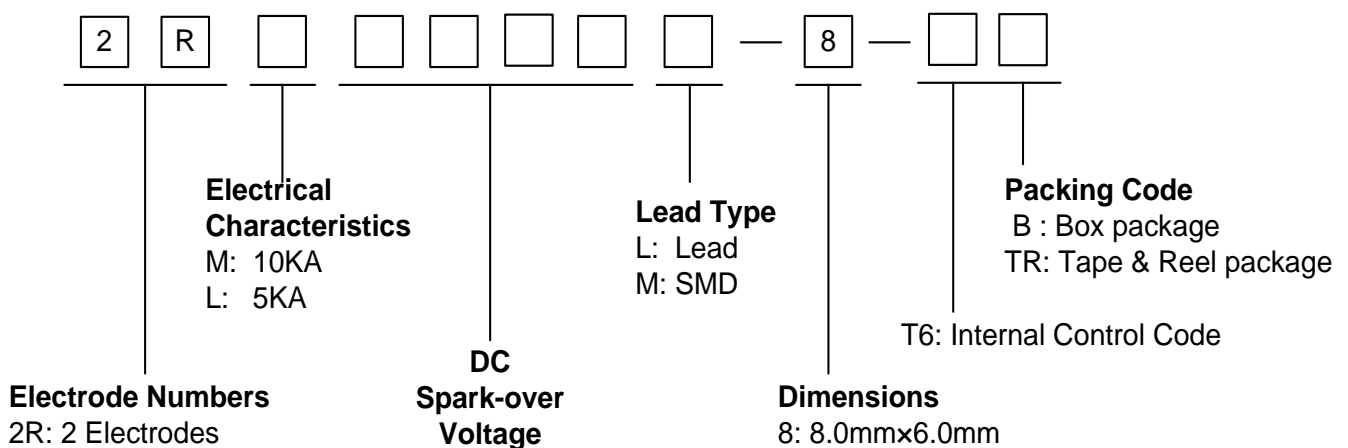
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance (≤1.5pF)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 8.0mm*6.0mm
- Storage and operating temperature: -40°C ~ +85°C
- Meets MSL level 1, per J-STD-020
- Safety certification: UL E327997



Applications

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

Part Number Code



Ordering Code for different package in 2RMxxxxL-8-T6 and 2RLxxxxL-8-T6 series

Box package: Add suffix “/B” at the end of the part number, such as 2RM1500L-8-T6/B or 2RL2000L-8-T6/B

Tape & Reel package: Add suffix “/TR” at the end of the part number, such as 2RM1500L-8-T6/TR or 2RL2000L-8-T6/TR

Marking

B : BrightKing Logo
 2RM1000-8 : Device Marking Code
 XXXX : Internal Control Code

Dimensions

L Type	Symbol	Dimension (mm)		
		Spec.	Tolerance	
	D	8.0	+0.3, -0.5	
	T	6.0	+0.3, -0.5	
	d	0.8	±0.1	
	L	30.0	Max.	
M Type		D	8.0	+0.3, -0.5
		T	6.0	+0.3, -0.5
		B	0.5	±0.1

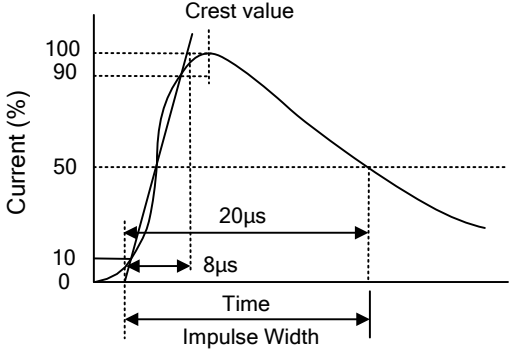
Electrical Characteristics

Part Number ☆	Type ①	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance	AC Withstanding Voltage	Device Marking Code
		100V/s	1000V/μs	8/20μs 10times	50Hz, 1sec	8/20μs 100A	Test Voltage	(GΩ)	1MHz		
		(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)		
2RM1000X-8	T6	1000±20%	1900	10.0	5.0	300	500	1.0	1.5	-	2RM1000-8
2RM1200X-8	T6	1200±20%	2000	10.0	5.0	300	500	1.0	1.5	-	2RM1200-8
2RM1400X-8	T6	1400±20%	2200	10.0	5.0	300	500	1.0	1.5	-	2RM1400-8
2RM1500X-8	T6	1500±20%	2300	10.0	5.0	300	500	1.0	1.5	-	2RM1500-8
2RM1600X-8	T6	1600±20%	2400	10.0	5.0	300	500	1.0	1.5	-	2RM1600-8
2RL2000X-8	T6	2000±20%	3200	5.0	5.0	300	500	1.0	1.5	-	2RL2000-8
2RL2500X-8	T6	2500±20%	3800	5.0	5.0	300	500	1.0	1.5	AC1250V,1min	2RL2500-8
2RL2700X-8	T6	2700±20%	4000	5.0	5.0	300	1000	1.0	1.5	AC1250V,1min	2RL2700-8
2RL3000X-8	T6	3000±20%	4200	5.0	5.0	300	1000	1.0	1.5	AC1500V,1min	2RL3000-8

Note: ① Specific code by request.

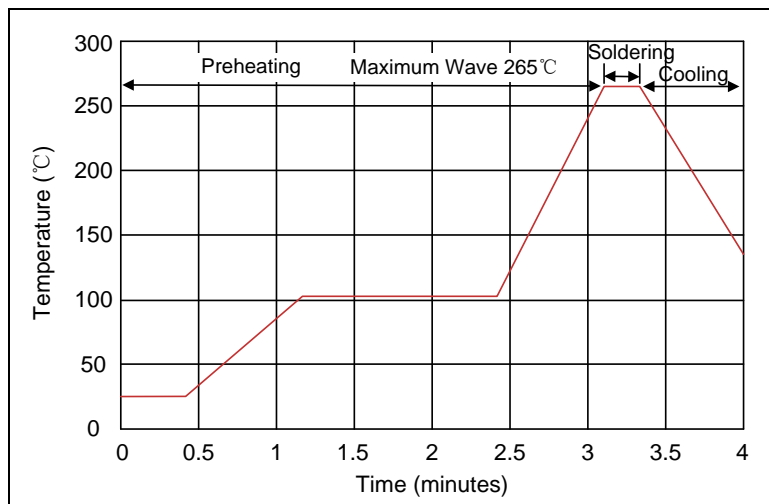
☆X may be L or M

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 $8/20\mu s$ 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	

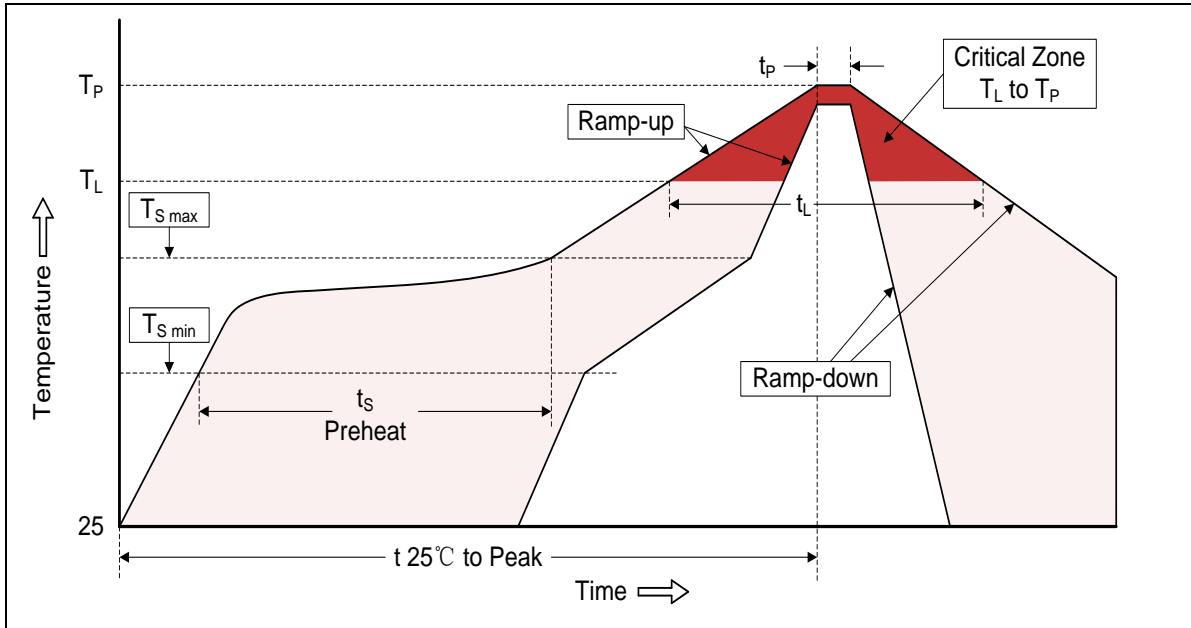
Recommended Soldering Conditions

Wave Soldering



Item	Conditions
Peak Temperature	265°C
Dipping Time	10 seconds
Soldering	1 time

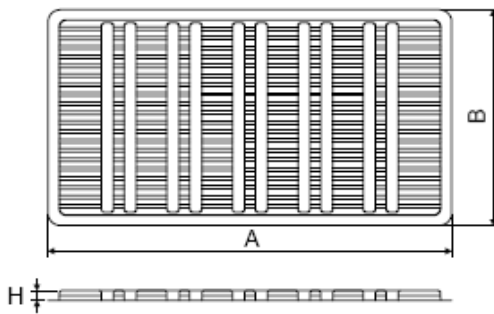
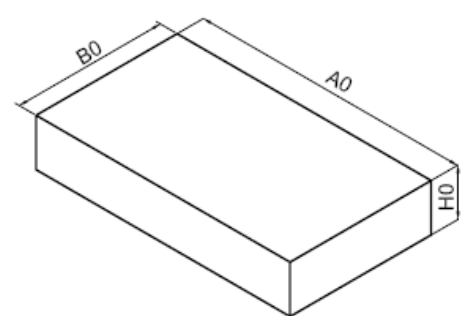
Reflow Soldering



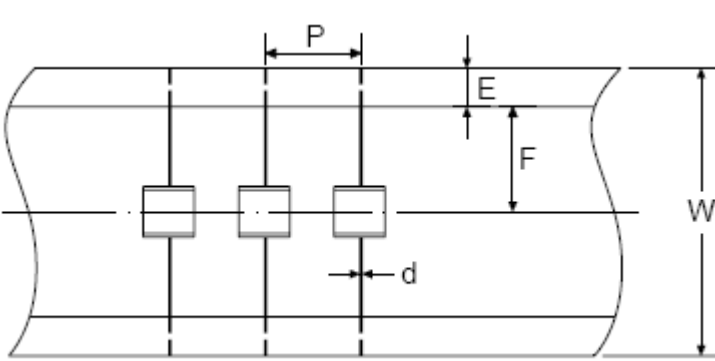
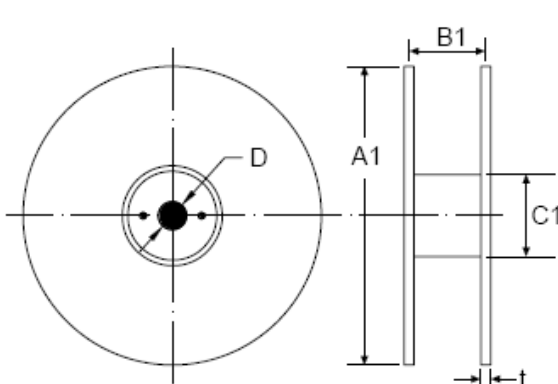
Profile Feature	Pb-Free Assembly
Average ramp-up rate (T _L to T _P)	3°C /second max.
Preheat -Temperature Min (T _{S min}) -Temperature Max (T _{S max}) -Time (min to max) (t _s)	150°C 200°C 60-180 seconds
T _{S max} to T _L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T _L) -Time (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

Axial Packing (Box)

<p>Skin packing</p> 	Dimension (mm)		
	Symbol	Spec.	Tolerance
	A	265.0	±5.0
	B	146.0	±5.0
Quantity: 100pcs			
<p>Inner box</p> 	A0	270.0	±2.0
	B0	150.0	±2.0
	H0	50.0	±2.0
	Quantity: 500pcs		

Axial Packing (Tape & Reel)

<p>Tape</p> 	Dimension (mm)		
	Symbol	Spec.	Tolerance
	P	10.0	±0.5
	W	65.0	±1.0
	E	6.0	±0.5
	F	26.5	±0.5
<p>Reel</p> 	d	0.8	±0.1
	A1	330.0	±2.0
	B1	70.0	±2.0
	C1	82.0	±2.0
	D	25.0	±0.5
	t	2.0	±0.2
	Quantity: 500pcs		

SMD Packing (Tape & Reel)

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	8.20	±0.10
	K0	8.50	±0.10
	B0	7.50	±0.10
	t0	0.50	±0.10
	D	330.00	±2.00
	d	13.00	±0.50
	L	20.00	±2.00
	t	2.00	±0.20
Quantity: 500pcs			

Reel	Symbol	Dimension (mm)	Tolerance
	D	330.00	±2.00
	d	13.00	±0.50
	L	20.00	±2.00
	t	2.00	±0.20
	Quantity: 500pcs		