

Gas Discharge Tube (GDT) Data Sheet

Features

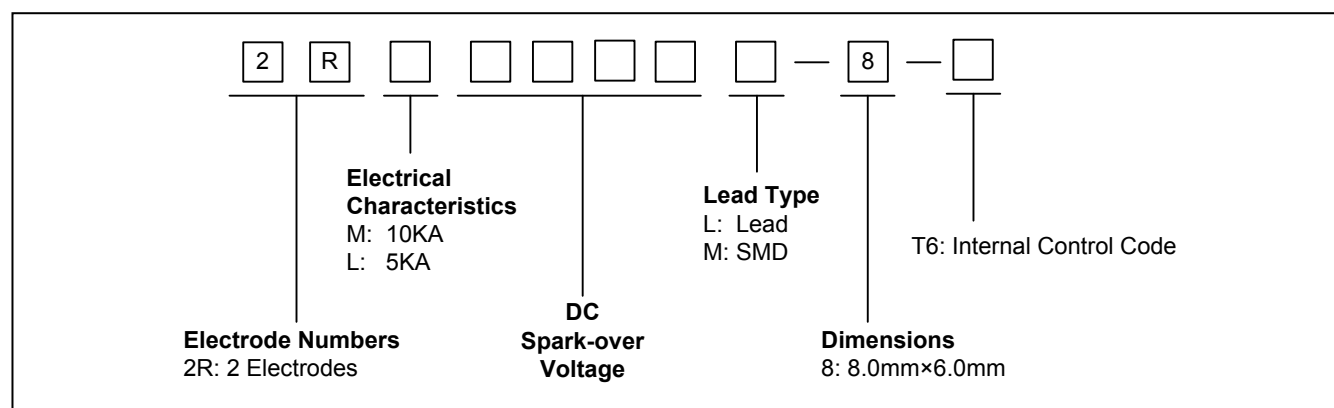
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance ($\leq 1.5\text{pF}$)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 8.0mm*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: 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

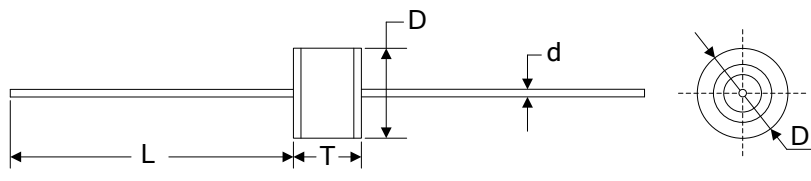
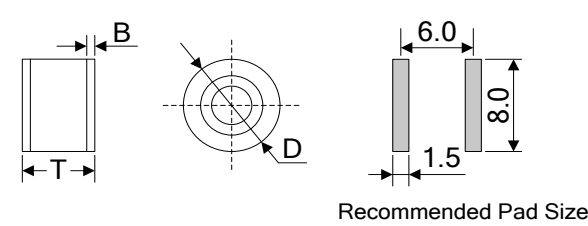
Box package: Add suffix “/B” at the end of the part number, such as 2RM1500L-8-T6/B or 2RL2000L-8-T6/B

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	Symbol	Dimension (mm)	
		Spec.	Tolerance
		Spec.	Tolerance
	D	8.0	+0.3, -0.5
	T	6.0	+0.3, -0.5
	B	0.5	±0.1

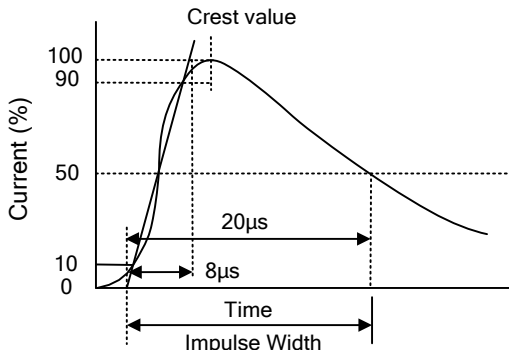
Electrical Characteristics

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.

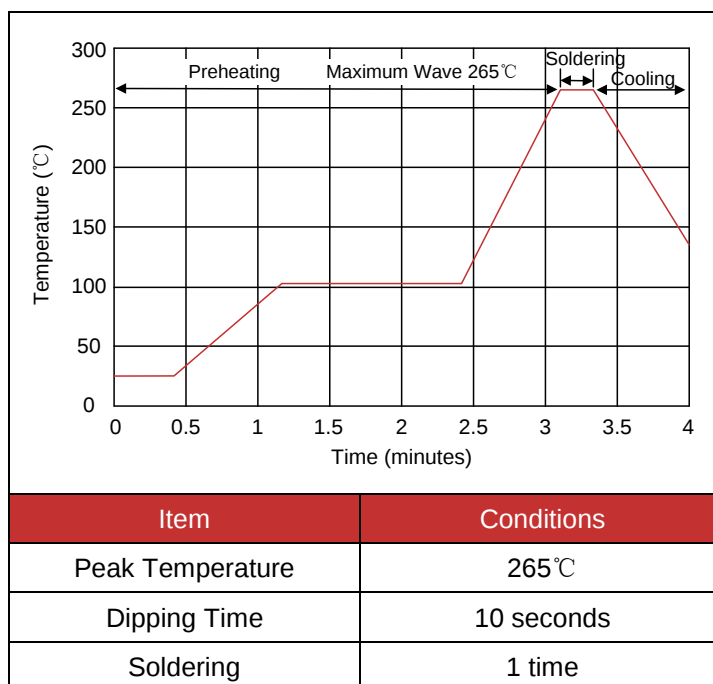
☆X may be L or M

Electrical Ratings

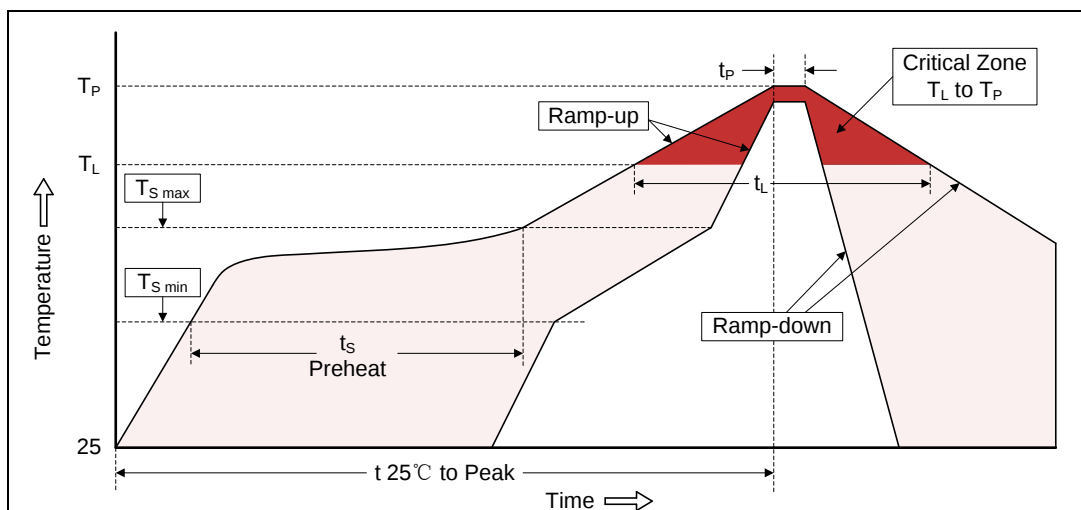
Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Impulse Discharge Current	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. 	
Alternating Discharge Current	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 .	
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



Reflow Soldering

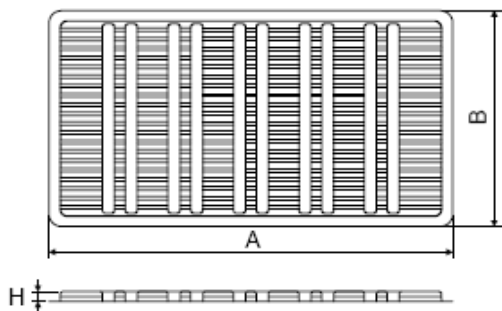


Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150°C
-Temperature Max ($T_{S\ max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	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

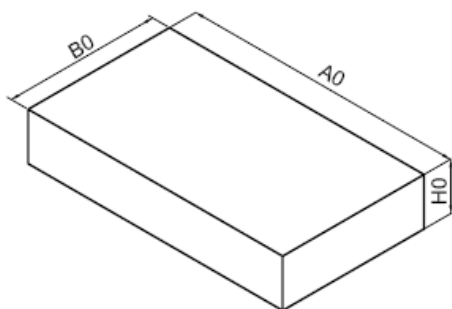
Axial Packing (Bulk)

Skin packing



Symbol	Dimension (mm)	
	Spec.	Tolerance
A	265.0	±5.0
B	146.0	±5.0
H	8.5	±0.5
Quantity: 100pcs		

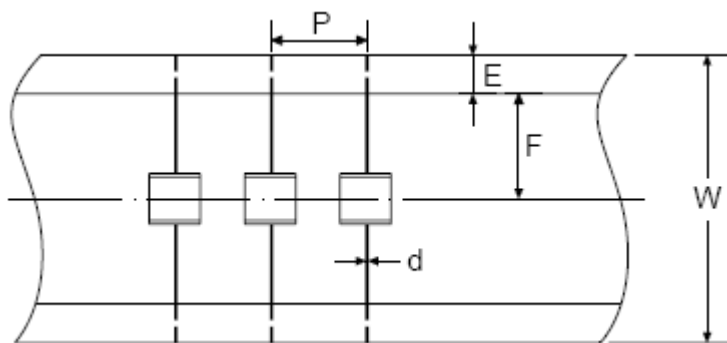
Inner box



A0	270.0	±2.0
B0	150.0	±2.0
H0	50.0	±2.0
Quantity: 500pcs		

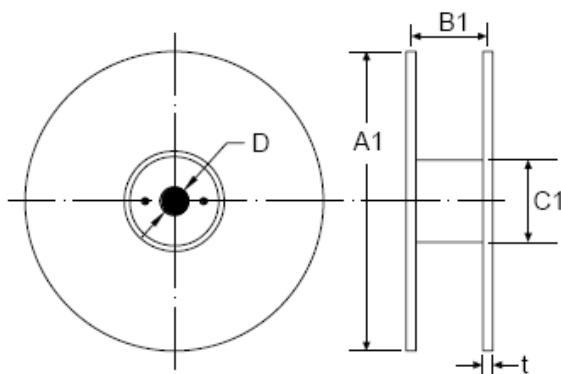
Axial Packing (Tape & Reel)

Tape



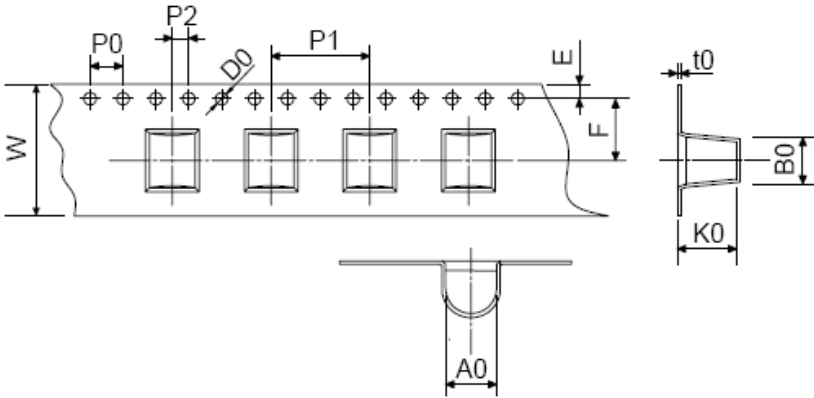
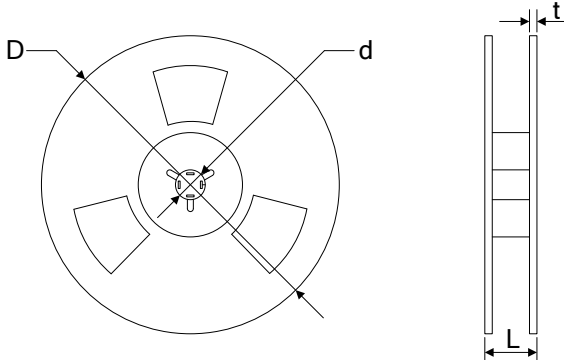
Symbol	Dimension (mm)	
	Spec.	Tolerance
P	10.0	±0.5
W	65.0	±1.0
E	6.0	±0.5
F	26.5	±0.5
d	0.8	±0.1

Reel



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		