Innovative Service Around the Globe YAGEO

DATA SHEET

GAS DISCHARGE TUBES
TELEPHONE INTERFACE

2R-5-HT series

RoHS compliant & free



Product specification– February 10, 2026 V.1

Gas Discharge Tube (GDT) Data Sheet

Features

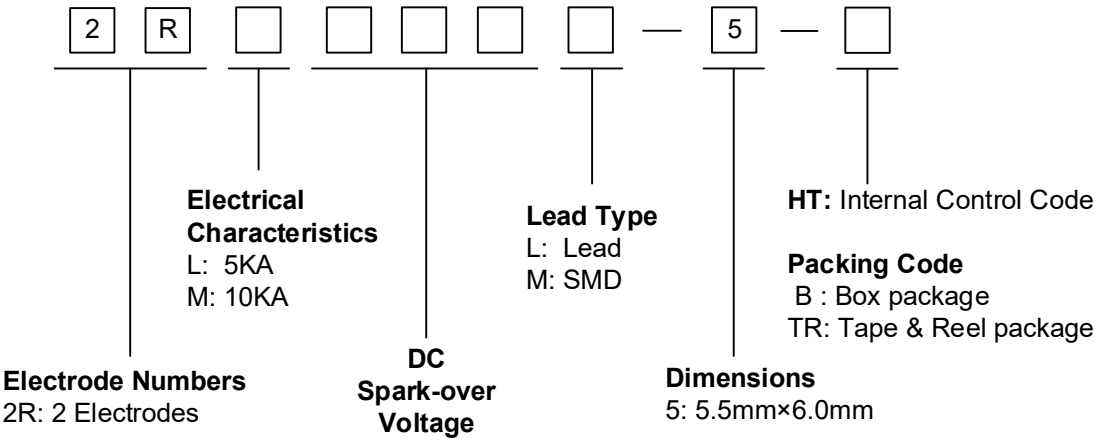


- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance (≤1.5pF)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 5.5mm*6.0mm
- Operating temperature: -40℃ ~ +125℃
- 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



Ordering Code for different package in 2RLxxxxL-5-HT, 2RMxxxxL-5-HT series

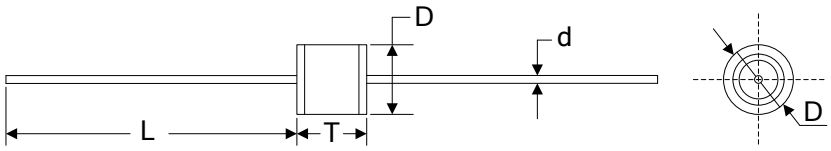
Box package: Add suffix "/B" at the end of the part number, such as 2RL070L-5-HT/B, 2RM070L-5-HT/B
Tape & Reel package: Add suffix "/TR" at the end of the part number, such as 2RL070L-5-HT/TR, 2RM070L-5-HT/TR

Marking

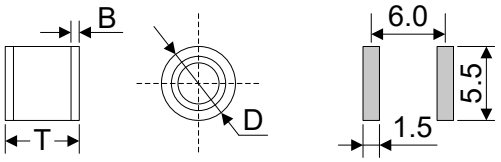
: BrightKing Logo
2RL090-5 : Device Marking Code
XXXX : Internal Control Code

Dimensions

L Type



M Type



Recommended Pad Size

Symbol	Dimension (mm)	
	Spec.	Tolerance
D	5.5	+0.3, -0.5
T	6.0	+0.3, -0.5
d	0.8	±0.1
L	30.0	Max.
D	5.5	+0.3, -0.5
T	6.0	+0.3, -0.5
B	0.5	±0.1

Electrical Characteristics

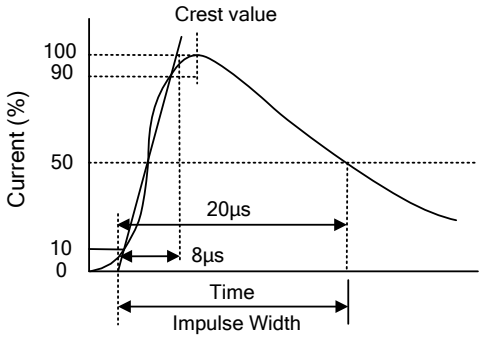
Part Number		DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance	Device Marking Code
		100V/s	1000V/μs	8/20μs 10times	50Hz,1sec	10/1000 μs	Test Voltag	(GΩ)	1MHz	
		(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)	
2RL070L-5-HT	2RL070M-5-HT	70±20%	800	5.0	5.0	300	25	1.0	1.5	2RL070-5
2RL075L-5-HT	2RL075M-5-HT	75±20%	800	5.0	5.0	300	25	1.0	1.5	2RL075-5
2RL090L-5-HT	2RL090M-5-HT	90±20%	700	5.0	5.0	300	50	1.0	1.5	2RL090-5
2RL120L-5-HT	2RL120M-5-HT	120±20%	700	5.0	5.0	300	50	1.0	1.5	2RL120-5
2RL145L-5-HT	2RL145M-5-HT	145±20%	700	5.0	5.0	300	100	1.0	1.5	2RL145-5
2RL150L-5-HT	2RL150M-5-HT	150±20%	700	5.0	5.0	300	100	1.0	1.5	2RL150-5
2RL230L-5-HT	2RL230M-5-HT	230±20%	700	5.0	5.0	300	100	1.0	1.5	2RL230-5
2RL250L-5-HT	2RL250M-5-HT	250±20%	700	5.0	5.0	300	100	1.0	1.5	2RL250-5
2RL300L-5-HT	2RL300M-5-HT	300±20%	900	5.0	5.0	300	100	1.0	1.5	2RL300-5
2RL350L-5-HT	2RL350M-5-HT	350±20%	900	5.0	5.0	300	100	1.0	1.5	2RL350-5

2RL400L-5-HT	2RL400M-5-HT	400±20%	1000	5.0	5.0	300	100	1.0	1.5	2RL400-5
2RL470L-5-HT	2RL470M-5-HT	470±20%	1100	5.0	5.0	300	250	1.0	1.5	2RL470-5
2RL600L-5-HT	2RL600M-5-HT	600±20%	1500	5.0	5.0	300	250	1.0	1.5	2RL600-5
2RL800L-5-HT	2RL800M-5-HT	800±20%	1700	5.0	5.0	300	250	1.0	1.5	2RL800-5

Electrical Characteristics

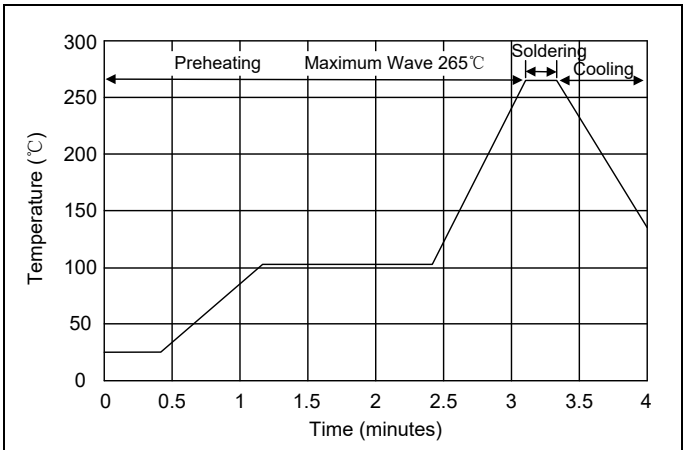
Part Number		DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current	Alternating Discharge Current	Impulse Life	Minimum Insulation Resistance		Maximum Capacitance	Device Marking Code
		100V/s	1000V/μs	8/20μs 10times	50Hz,1sec	10/1000μs 100A	Test Voltage	(GΩ)	1MHz	
		(V)	(V)	(KA)	(A)	(times)	DC(V)		(pF)	
2RM070L-5-HT	2RM070M-5-HT	70±20%	600	10	5.0	500	25	1.0	1.5	2RM070-5
2RM075L-5-HT	2RM075M-5-HT	75±20%	600	10	5.0	500	25	1.0	1.5	2RM075-5
2RM090L-5-HT	2RM090M-5-HT	90±20%	600	10	10	500	50	1.0	1.5	2RM090-5
2RM120L-5-HT	2RM120M-5-HT	120±20%	600	10	10	500	50	1.0	1.5	2RM120-5
2RM145L-5-HT	2RM145M-5-HT	145±20%	700	10	10	500	100	1.0	1.5	2RM145-5
2RM150L-5-HT	2RM150M-5-HT	150±20%	700	10	10	500	100	1.0	1.5	2RM150-5
2RM230L-5-HT	2RM230M-5-HT	230±20%	700	10	10	500	100	1.0	1.5	2RM230-5

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/μs.	
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. 	
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	

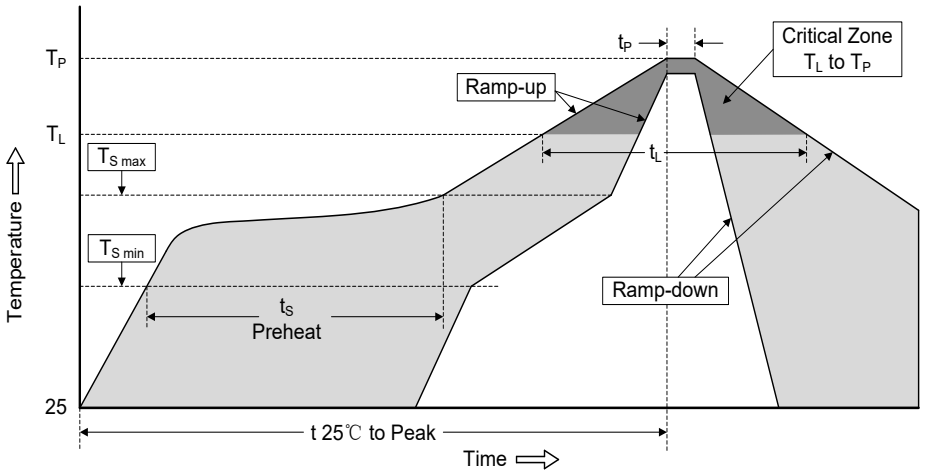
Recommended Soldering Conditions

Wave Soldering



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

Reflow Soldering

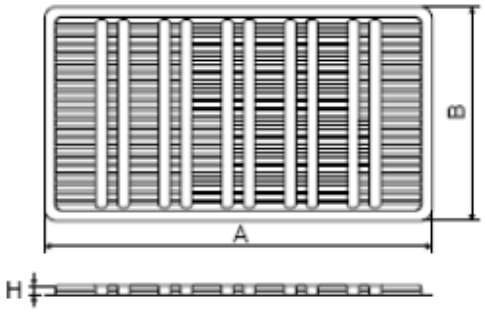


Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (ts)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

Packaging

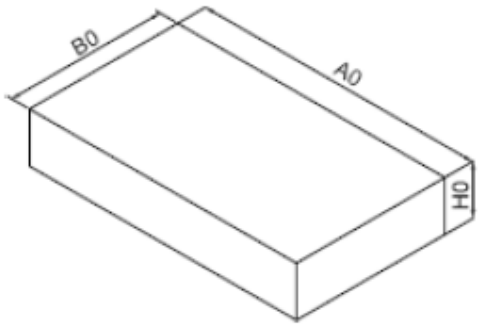
Axial Packing (Box)

Skin packing



Symbol	Dimension (mm)	
	Spec.	Tolerance
A	265.0	±5.0
B	146.0	±5.0
H	6.8	±0.5
Quantity: 100pcs		

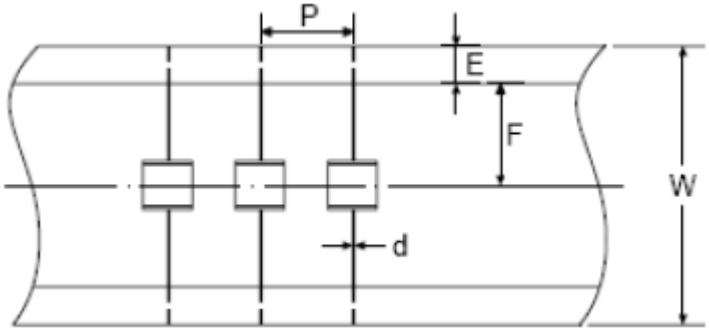
Inner box



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

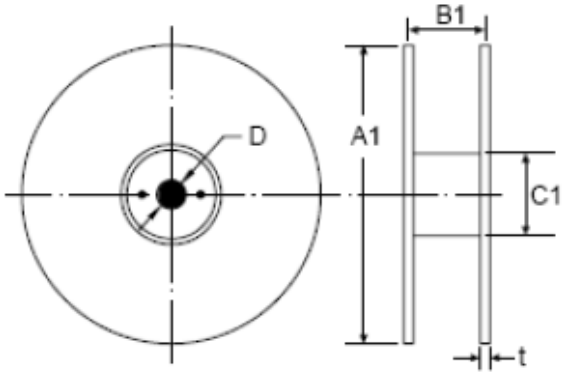
Axial Packing (Tape & Reel)

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

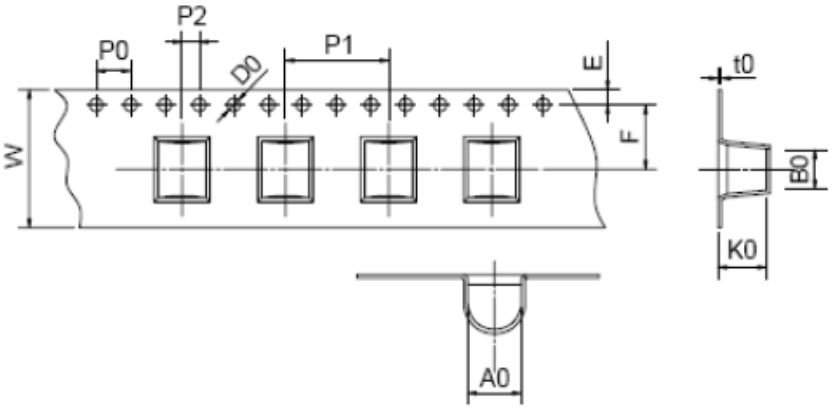
Reel



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: 1000pcs		

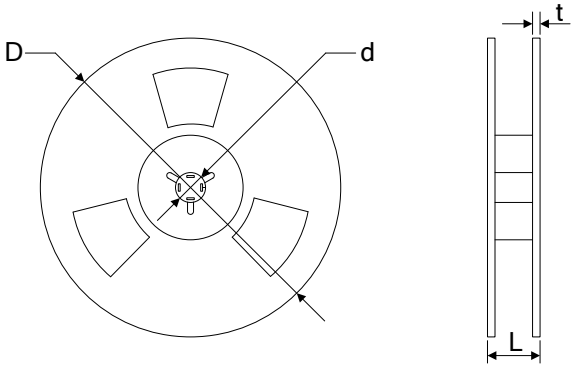
SMD Packing (Tape & Reel)

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	5.85	±0.10
K0	6.20	±0.10
B0	7.00	±0.10
t0	0.50	±0.10

Reel



D	330.00	±2.00
d	13.00	±0.50
L	20.00	±2.00
t	2.00	±0.20

Quantity: 800pcs

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