

## Gas Discharge Tube (GDT) Data Sheet

### Features

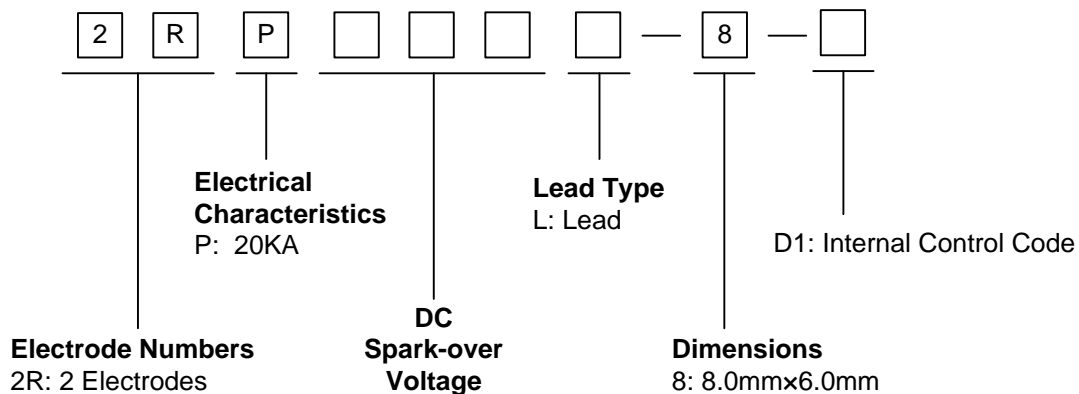
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance (≤1.5pF)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 8.0mm\*6.0mm
- Storage and operating temperature: -40°C ~ +85°C
- Meets MSL level 1, per J-STD-020
- Safety certification: E244458



### Applications

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

### Part Number Code



### Marking

**B** : BrightKing Logo  
 2RP090-8 : Device Marking Code  
 YXXX : Date Code

**Dimensions**

	Symbol	Dimension (mm)	
		Spec.	Tolerance
	D	8.0	+0.3, -0.5
	T	6.0	+0.3, -0.5
	d	1.0	±0.1
L	30.0	Max.	

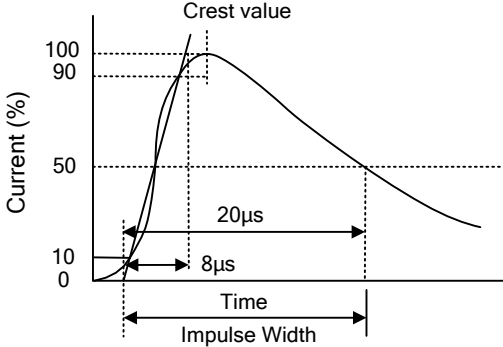
**Electrical Characteristics**

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	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)	
2RP075L-8	D1	75±20%	600	20	20	500	25	1.0	1.5	2RP075-8
2RP090L-8	D1	90±20%	600	20	20	500	50	1.0	1.5	2RP090-8
2RP145L-8	D1	145±20%	700	20	20	500	100	1.0	1.5	2RP145-8
2RP150L-8	D1	150±20%	700	20	20	500	100	1.0	1.5	2RP150-8
2RP230L-8	D1	230±20%	700	20	20	500	100	1.0	1.5	2RP230-8
2RP250L-8	D1	250±20%	800	20	20	500	100	1.0	1.5	2RP250-8
2RP300L-8	D1	300±20%	900	20	20	500	100	1.0	1.5	2RP300-8
2RP350L-8	D1	350±20%	900	20	20	500	100	1.0	1.5	2RP350-8
2RP400L-8	D1	400±20%	1000	20	20	500	100	1.0	1.5	2RP400-8
2RP470L-8	D1	470±20%	1100	20	20	500	250	1.0	1.5	2RP470-8
2RP600L-8	D1	600±20%	1300	20	20	500	250	1.0	1.5	2RP600-8
2RP800L-8	D1	800±20%	1500	20	20	500	250	1.0	1.5	2RP800-8

Note: ① Specific code by request.

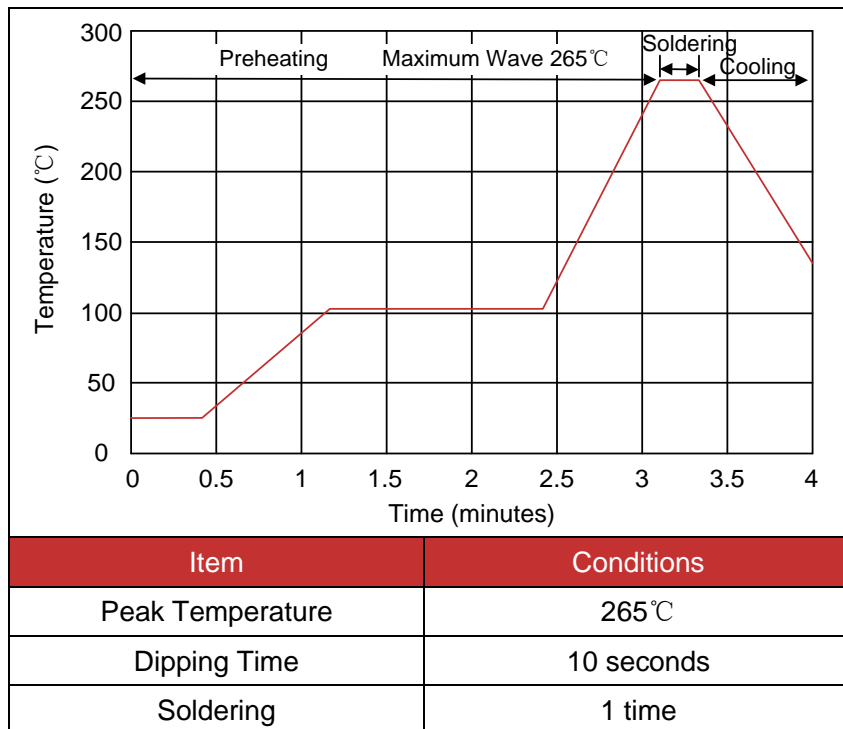
**Electrical Ratings**

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 $dv/dt=1000V/\mu s$ .	

<p>Impulse Discharge Current</p>	<p>Maximum 8/20<math>\mu</math>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>Alternating Discharge Current</p>	<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 <math>\pm 25\%</math> from its initial value. <math>IR &gt; 10^8</math> ohms (-20%, +30% for 70~90V).</p>	
<p>Insulation Resistance</p>	<p>The resistance of gas tube shall be measured between two electrodes.</p>	
<p>Capacitance</p>	<p>The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz</p>	

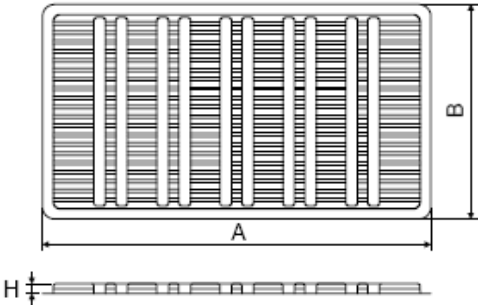
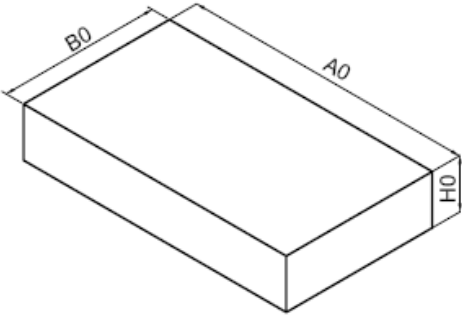
**Recommended Soldering Conditions**

Wave Soldering

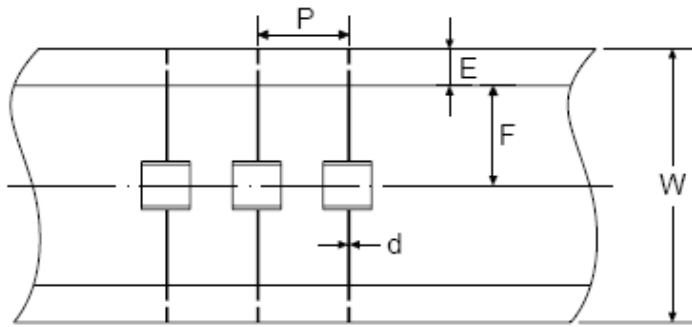
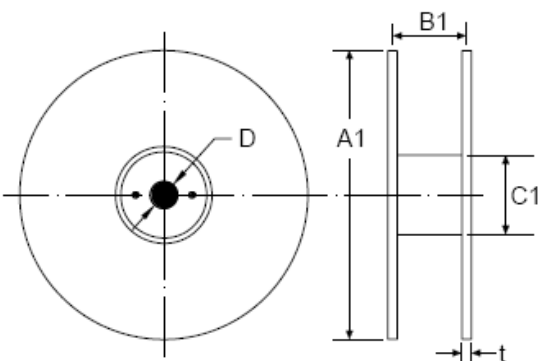


**Packaging**

**Axial Packing (Bulk)**

Skin packing			<table border="1"> <thead> <tr> <th rowspan="2">Symbol</th> <th colspan="2">Dimension (mm)</th> </tr> <tr> <th>Spec.</th> <th>Tolerance</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>267.0</td> <td>±2.0</td> </tr> <tr> <td>B</td> <td>146.0</td> <td>±2.0</td> </tr> <tr> <td>H</td> <td>9.5</td> <td>±1.0</td> </tr> </tbody> </table>	Symbol	Dimension (mm)		Spec.	Tolerance	A	267.0	±2.0	B	146.0	±2.0	H	9.5	±1.0
	Symbol	Dimension (mm)															
Spec.		Tolerance															
A	267.0	±2.0															
B	146.0	±2.0															
H	9.5	±1.0															
Quantity: 100pcs																	
Inner box			<table border="1"> <tbody> <tr> <td>A0</td> <td>270.0</td> <td>±2.0</td> </tr> <tr> <td>B0</td> <td>150.0</td> <td>±2.0</td> </tr> <tr> <td>H0</td> <td>50.0</td> <td>±2.0</td> </tr> </tbody> </table>	A0	270.0	±2.0	B0	150.0	±2.0	H0	50.0	±2.0					
			A0	270.0	±2.0												
			B0	150.0	±2.0												
			H0	50.0	±2.0												
Quantity: 500pcs																	

**Axial Packing (Tape & Reel)**

Tape			<table border="1"> <thead> <tr> <th rowspan="2">Symbol</th> <th colspan="2">Dimension (mm)</th> </tr> <tr> <th>Spec.</th> <th>Tolerance</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>10.0</td> <td>±0.5</td> </tr> <tr> <td>W</td> <td>65.0</td> <td>±1.0</td> </tr> <tr> <td>E</td> <td>6.0</td> <td>±0.5</td> </tr> <tr> <td>F</td> <td>26.5</td> <td>±0.5</td> </tr> <tr> <td>d</td> <td>1.0</td> <td>±0.1</td> </tr> </tbody> </table>	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	1.0	±0.1
	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	1.0	±0.1																					
Reel			<table border="1"> <tbody> <tr> <td>A1</td> <td>330.0</td> <td>±2.0</td> </tr> <tr> <td>B1</td> <td>70.0</td> <td>±2.0</td> </tr> <tr> <td>C1</td> <td>82.0</td> <td>±2.0</td> </tr> <tr> <td>D</td> <td>25.0</td> <td>±0.5</td> </tr> <tr> <td>t</td> <td>3.0</td> <td>±0.2</td> </tr> </tbody> </table>	A1	330.0	±2.0	B1	70.0	±2.0	C1	82.0	±2.0	D	25.0	±0.5	t	3.0	±0.2					
			A1	330.0	±2.0																		
			B1	70.0	±2.0																		
			C1	82.0	±2.0																		
			D	25.0	±0.5																		
			t	3.0	±0.2																		
Quantity: 500pcs																							