

Gas Discharge Tube (GDT) Data Sheet

Features

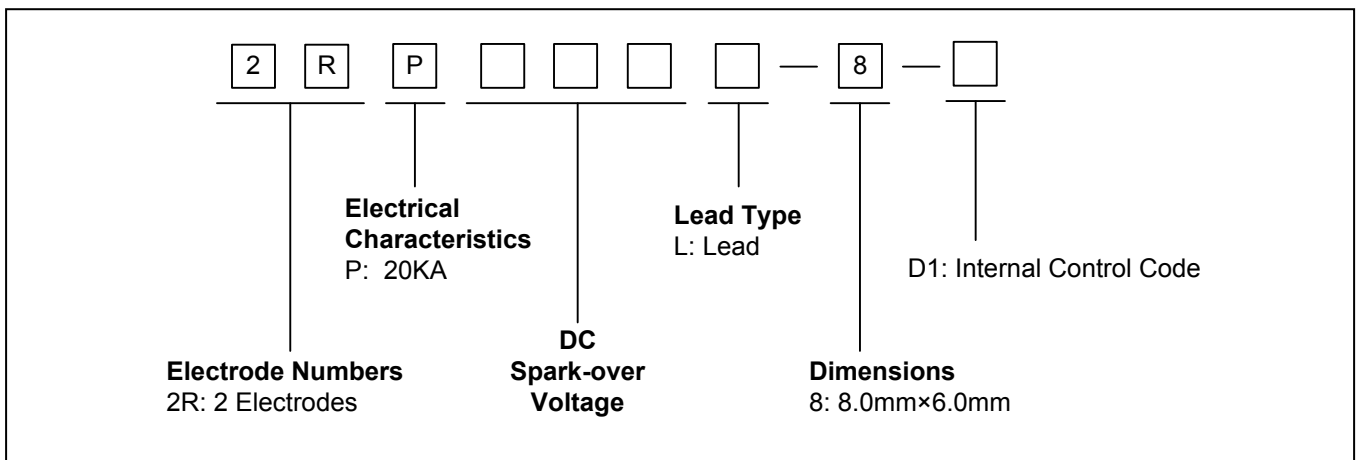
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance ($\leq 1.5\text{pF}$)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 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: E244458



Applications

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

Part Number Code

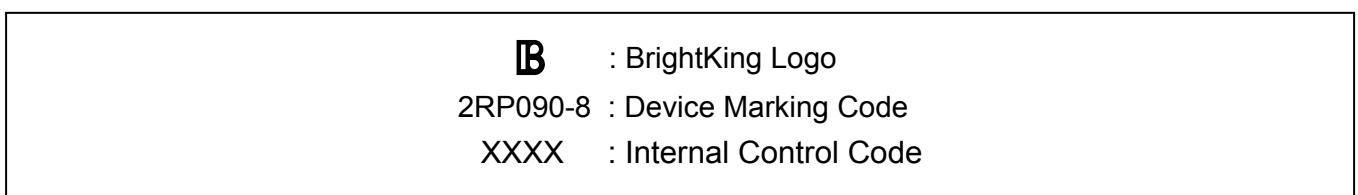


Ordering Code for different package in 2RPxxxL-8-D1 series

Box package: Add suffix "/B" at the end of the part number, such as 2RP075L-8-D1/B

Reel package: Add suffix "/TR" at the end of the part number, such as 2RP075L-8-D1/TR

Marking



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. | |

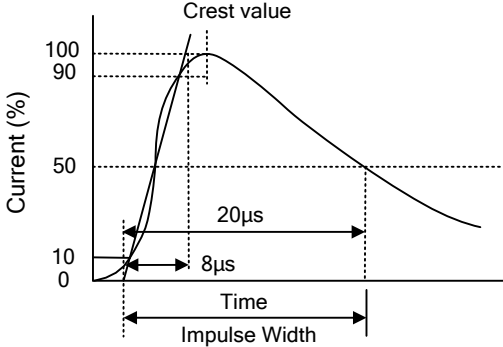
Electrical Characteristics

| 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.

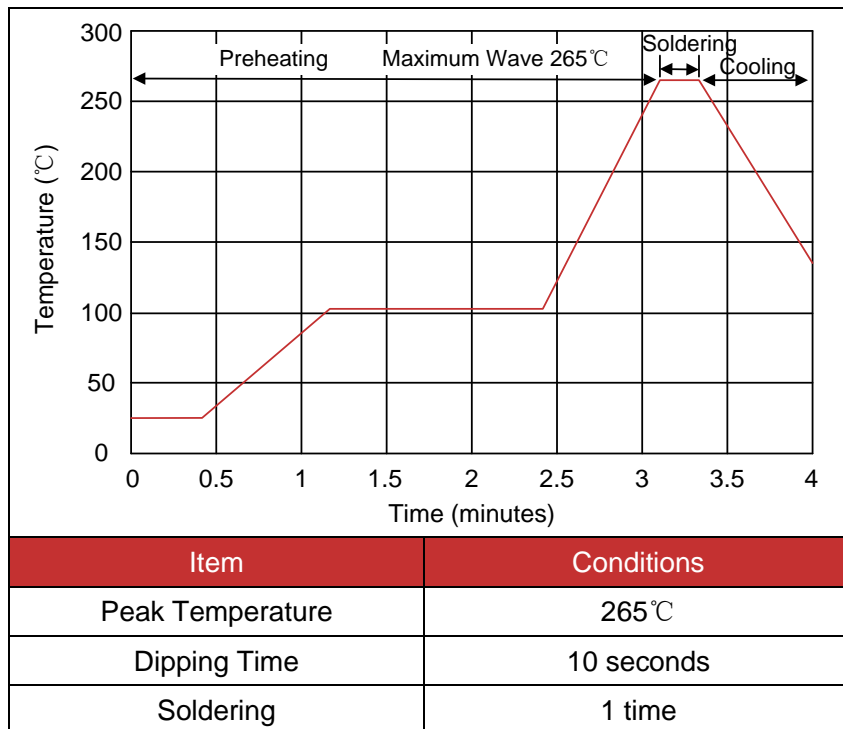
Electrical Ratings

| 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 8/20μs 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 $\pm 25\%$ from its initial value. $IR > 10^8$ 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> | |

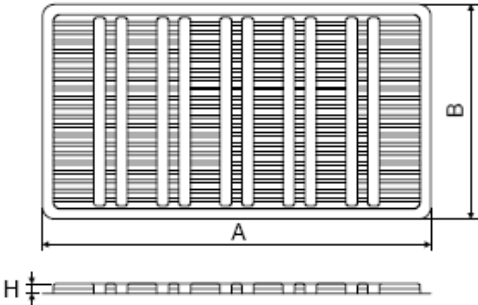
Recommended Soldering Conditions

Wave Soldering

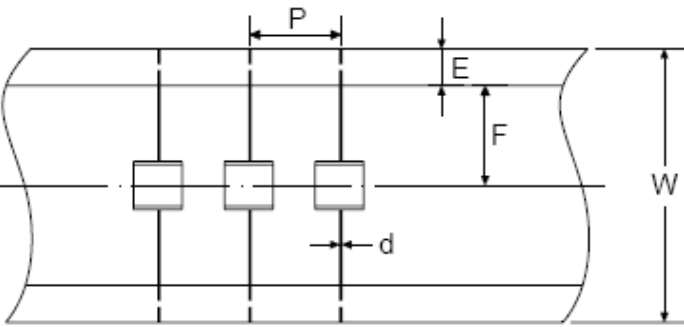


Packaging

Axial Packing (Bulk)

| Skin packing | Dimension (mm) | |
|---|------------------|-------------------|
| | Symbol | Spec. / Tolerance |
|  | A | 267.0 ±2.0 |
| | B | 146.0 ±2.0 |
| | H | 9.5 ±1.0 |
| | Quantity: 100pcs | |
| Inner box | Dimension (mm) | |
| | Symbol | Spec. / Tolerance |
| | A0 | 270.0 ±2.0 |
| | B0 | 150.0 ±2.0 |
| H0 | 50.0 ±2.0 | |
| Quantity: 500pcs | | |

Axial Packing (Tape & Reel)

| Tape | 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 |
| | d | 1.0 ±0.1 |
| | Quantity: 500pcs | |
| Reel | Dimension (mm) | |
| | Symbol | Spec. / Tolerance |
| | 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 | | |