

Bx2R2D5-xxxA

Gas Discharge Tube

Features

- High insulation resistance
- Low capacitance ($\leq 1\text{pF}$)
- 5KA 8/20 μs maximum surge current capacity in accordance with IEC61000-4-5
- 6KV 10/700 μs maximum surge rating in accordance with ITU-TK.21
- Surface mounted gas arrester
- Micro-Gap Design
- Size 5.5 \times 6.0
- Storage and operating temperature: -40°C ~ +85°C
- Meets MSL level 1, per J-STD-020

Package



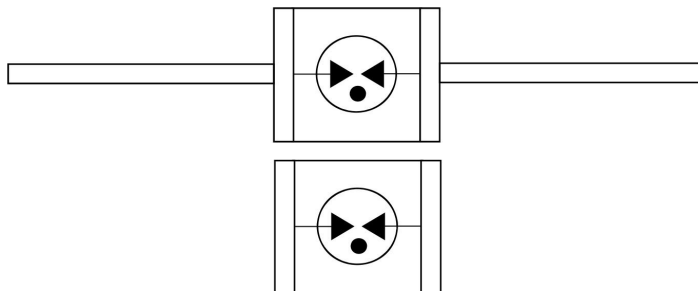
Applications

- Communication equipment
- CATV equipment
- Data lines
- Power supplies
- Telecom SLIC protection

Applications

- Broadband equipment
- ADSL equipment, including ADSL2+
- XDSL equipment
- Satellite and CATV equipment
- General telecom equipment

Schematic & PIN Configuration



Ordering information

| Order code | Package | Base qty | Delivery mode |
|--------------|------------------|----------|---------------|
| BA2R2D5-xxxA | 5.5 \times 6-W | 500 | Bulk |
| BS2R2D5-xxxA | 5.5 \times 6.0 | 500 | Bulk |



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Absolute Maximum Ratings ($T_A=+25^{\circ}\text{C}$, unless otherwise noted)

| Part Number | | DC Sparkover Voltage | Maximum Impulse Spark-over Voltage | Minimum Insulation Resistance | | Max. Capacitance | Impulse withstanding Voltage Capacity | Nominal Impulse Discharge Current |
|---------------|---------------|----------------------|------------------------------------|-------------------------------|-----------------|------------------|---------------------------------------|-----------------------------------|
| | | 100V/S | 1KV/us | (GΩ) | Test DC Voltage | 1MHZ | 10/700us ±5times | 8/20us ±5times |
| | | (V) | (V) | | (V) | (pF) | (KV) | (KA) |
| BA2R2D5-75A | BS2R2D5-75A | 75±20% | 700 | 1 | 25 | 1 | 6 | 5 |
| BA2R2D5-90A | BS2R2D5-90A | 90±20% | 700 | 1 | 50 | 1 | 6 | 5 |
| BA2R2D5-150A | BS2R2D5-150A | 150±20% | 700 | 1 | 100 | 1 | 6 | 5 |
| BA2R2D5-230A | BS2R2D5-230A | 230±20% | 700 | 1 | 100 | 1 | 6 | 5 |
| BA2R2D5-300A | BS2R2D5-300A | 300±20% | 900 | 1 | 100 | 1 | 6 | 5 |
| BA2R2D5-350A | BS2R2D5-350A | 350±20% | 900 | 1 | 100 | 1 | 6 | 5 |
| BA2R2D5-470A | BS2R2D5-470A | 470±20% | 1100 | 1 | 250 | 1 | 6 | 5 |
| BA2R2D5-600A | BS2R2D5-600A | 600±20% | 1500 | 1 | 250 | 1 | 6 | 5 |
| BA2R2D5-800A | BS2R2D5-800A | 800±20% | 1700 | 1 | 250 | 1 | 6 | 5 |
| BA2R2D5-2000A | BS2R2D5-2000A | 2000±20% | 3200 | 1 | 250 | 1 | 6 | 5 |

Electrical Parameters

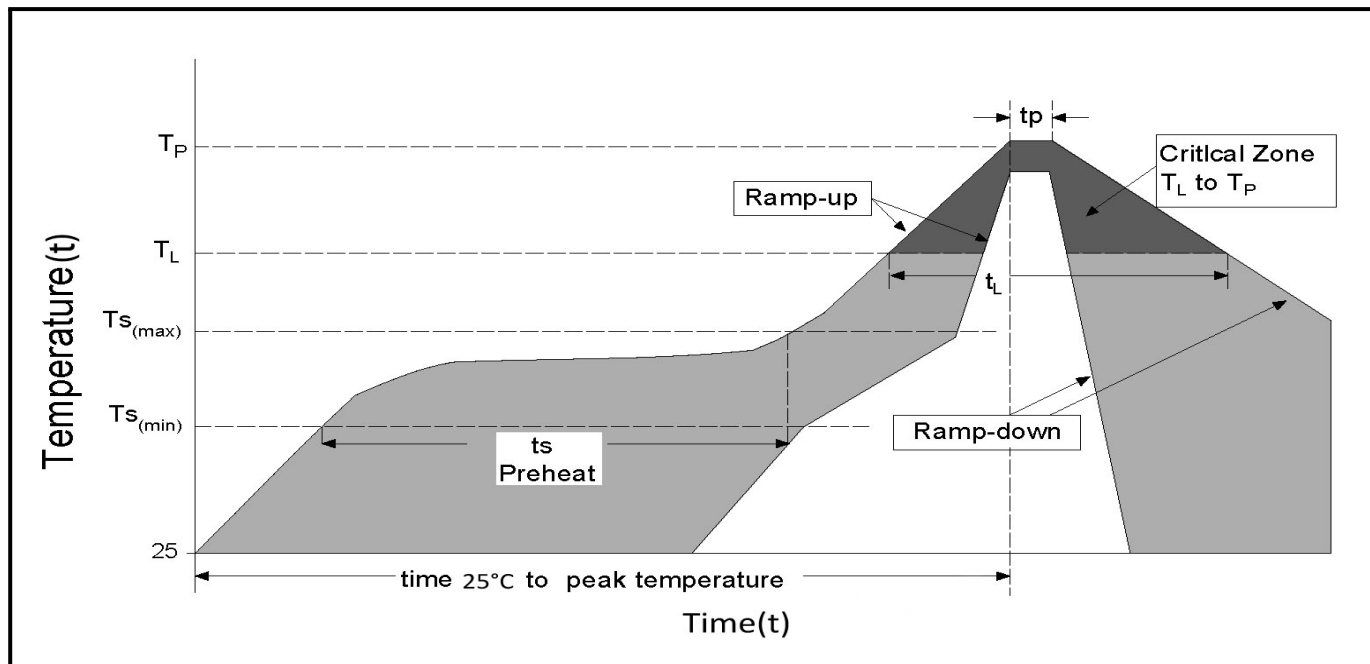
| Items | Test Condition/Description | Requirement |
|------------------------------------|--|-----------------------------|
| DC Spark-over Voltage | The voltage is measured with voltage ramp $dv/dt=100\text{V/s}$. | To meet the specified value |
| Maximum Impulse Spark-over Voltage | The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000\text{V/us}$. | |
| 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 | |
| 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, without causing the DC spark-over voltage to change more than 25% from its initial value. | |
| Impulse Withstanding Voltage | The maximum 10/700μs surge that can be applied to the Gas Tube, 5 positive and 5 negative surges, with 1 minute interval time, without causing the DC spark-over voltage to change more than 25% from its initial value. | |



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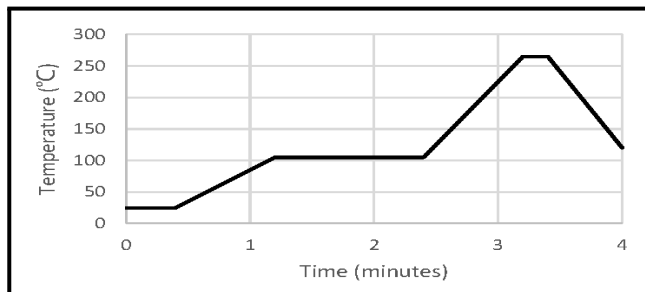
Gas Discharge Tube

Soldering Parameters



| Reflow Condition | | Lead-free assembly |
|--|------------------------------------|-------------------------|
| Pre Heat | - Temperature Min ($T_{S(min)}$) | 150°C |
| | - Temperature Max ($T_{S(max)}$) | 200°C |
| | - Time (min to max) (t_s) | 60 - 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/second max |
| $T_{S(max)}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | - Temperature (T_L) (Liquidus) | 217°C |
| | - Time (t_L) | 60 - 150 secs |
| Peak Temperature (T_P) | | 260 ^{+0/-5} °C |
| Time within 5°C of actual peak Temperature (t_p) | | 20 – 40 secs |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (t) | | 8 minutes Max. |
| Do not exceed | | 260°C |

Soldering Parameters



| Wave Soldering | Lead-free assembly |
|----------------------------|-------------------------|
| Peak Temperature (T_P) | 260 ^{+0/-5} °C |
| Dipping Time (t) | 10 Sec |
| Soldering | 1 time |

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

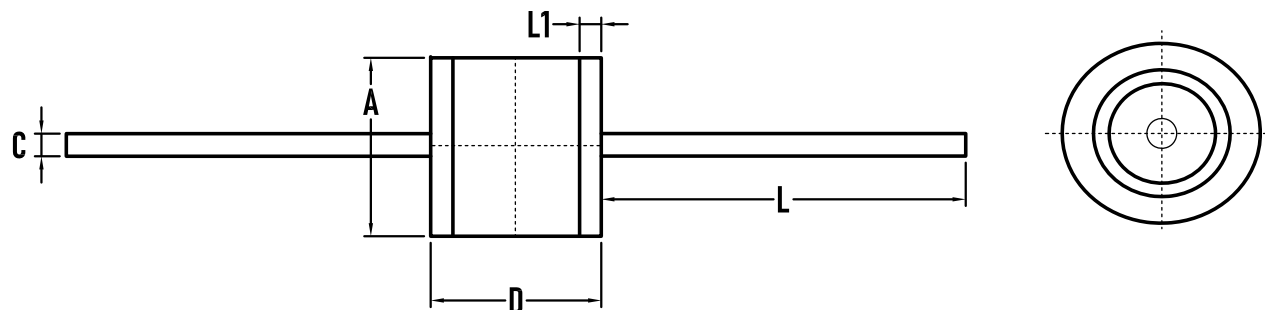
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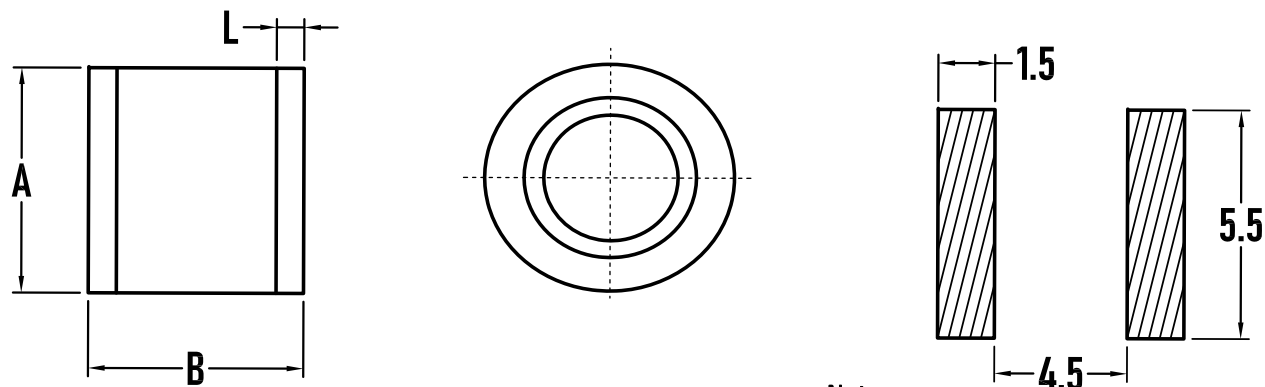
Gas Discharge Tube

Outline Drawing -5.5×6.0-W



| Dim. | Millimeters | | | Inches | | |
|------|-------------|------|------|--------|-------|-------|
| | MIN. | NOW. | MAX. | MIN. | NOW. | MAX. |
| A | 5 | 5.5 | 5.8 | 0.197 | 0.217 | 0.228 |
| C | 0.7 | 0.8 | 0.9 | 0.028 | 0.031 | 0.035 |
| D | 5.5 | 6 | 6.3 | 0.217 | 0.236 | 0.248 |
| L | — | — | 30 | — | — | 1.181 |
| L1 | 0.4 | 0.5 | 0.6 | 0.016 | 0.02 | 0.024 |

Outline Drawing -5.5×6.0



Note:
dimensions: Millimeters

| Dim. | Millimeters | | | Inches | | |
|------|-------------|------|------|--------|-------|-------|
| | MIN. | NOW. | MAX. | MIN. | NOW. | MAX. |
| A | 5 | 5.5 | 5.8 | 0.197 | 0.217 | 0.228 |
| B | 5.5 | 6 | 6.3 | 0.217 | 0.236 | 0.248 |
| L | 0.4 | 0.5 | 0.6 | 0.016 | 0.02 | 0.024 |

