

DATA SHEET

GAS DISCHARGE TUBES TELEPHONE INTERFACE

2R-8x6 series

RoHS compliant & Halogen free



Product specification— April 25, 2019 V.0



Gas Discharge Tube (GDT) Data Sheet

Features

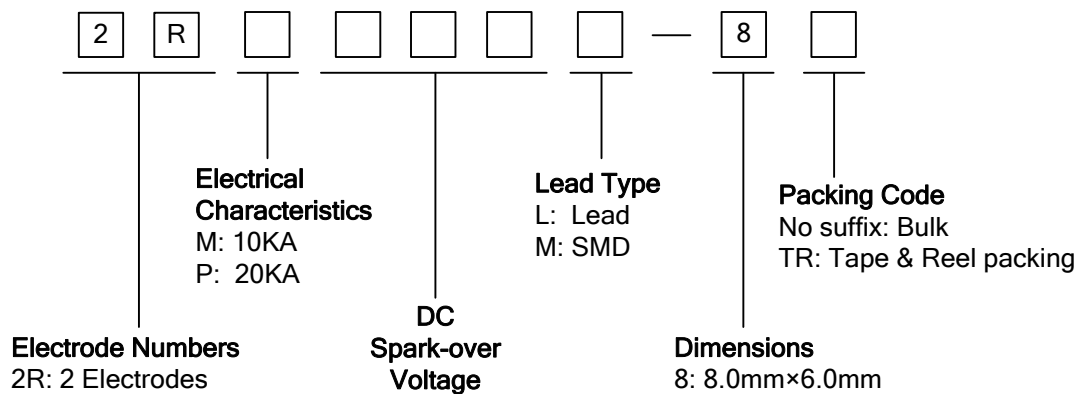
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs.
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance (≤1.5pF)
- High holdover voltage
- Large absorbing transient current capability.
- Micro-Gap Design
- Size: 8.0mm*6.0mm
- 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



Ordering Code for different package in 2RMxxxL-8 and 2RPxxxL-8 series

Box package: Add suffix “/B” at the end of the part number, such as 2RM075L-8/B or 2RP120L-8/B

Reel package: Add suffix “/TR” at the end of the part number, such as 2RM075L-8/TR or 2RP120L-8/TR

Marking

B : BritghtKing Logo
 2RM090-8 : Device Marking Code
 YXXX : Date 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 | | D | 8.0 | +0.3, -0.5 |
| | | T | 6.0 | +0.3, -0.5 |
| | | B | 0.5 | ±0.1 |

Electrical Characteristics

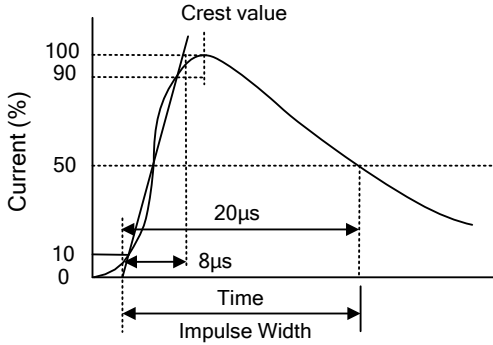
| Part Number | | DC Spark-over Voltage | Maximum Impulse Spark-over Voltage | Nominal Impulse Discharge Current | Alternating Discharge Current | Impulse Life | Minimum Insulation Resistance | | Maximum Capacitance | Device Marking Code |
|-------------|-----------|-----------------------|------------------------------------|-----------------------------------|-------------------------------|-------------------|-------------------------------|------|---------------------|---------------------|
| | | 100V/s | 1000V/μs | 8/20μs 10times | 50Hz, 1sec | 10/1000μs 100A | Test Voltage | (GΩ) | 1MHz | |
| | | (V) | (V) | (KA) | (A) | (times) | DC(V) | | (pF) | |
| 2RM075L-8 | 2RM075M-8 | 75±20% | 600 | 10 | 10 | 500 | 25 | 1.0 | 1.5 | 2RM075-8 |
| 2RM090L-8 | 2RM090M-8 | 90±20% | 600 | 10 | 10 | 500 | 50 | 1.0 | 1.5 | 2RM090-8 |
| 2RM120L-8 | 2RM120M-8 | 120±20% | 600 | 10 | 10 | 500 | 50 | 1.0 | 1.5 | 2RM120-8 |
| 2RM145L-8 | 2RM145M-8 | 145±20% | 700 | 10 | 10 | 500 | 100 | 1.0 | 1.5 | 2RM145-8 |
| 2RM150L-8 | 2RM150M-8 | 150±20% | 700 | 10 | 10 | 500 | 100 | 1.0 | 1.5 | 2RM150-8 |
| 2RM230L-8 | 2RM230M-8 | 230±20% | 700 | 10 | 10 | 500 | 100 | 1.0 | 1.5 | 2RM230-8 |
| 2RM250L-8 | 2RM250M-8 | 250±20% | 800 | 10 | 10 | 500 | 100 | 1.0 | 1.5 | 2RM250-8 |
| 2RM300L-8 | 2RM300M-8 | 300±20% | 900 | 10 | 10 | 500 | 100 | 1.0 | 1.5 | 2RM300-8 |
| 2RM350L-8 | 2RM350M-8 | 350±20% | 900 | 10 | 10 | 500 | 100 | 1.0 | 1.5 | 2RM350-8 |
| 2RM400L-8 | 2RM400M-8 | 400±20% | 1000 | 10 | 10 | 500 | 100 | 1.0 | 1.5 | 2RM400-8 |
| 2RM470L-8 | 2RM470M-8 | 470±20% | 1100 | 10 | 10 | 500 | 250 | 1.0 | 1.5 | 2RM470-8 |
| 2RM600L-8 | 2RM600M-8 | 600±20% | 1300 | 10 | 10 | 500 | 250 | 1.0 | 1.5 | 2RM600-8 |

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/ μ s | 8/20 μ s 10times | 50Hz, 1sec | 10/1000 μ s 100A | Test Voltage | (G Ω) | 1MHz | |
| | | (V) | (V) | (KA) | (A) | (times) | DC(V) | | (pF) | |
| 2RM800L-8 | 2RM800M-8 | 800 \pm 20% | 1500 | 10 | 10 | 500 | 250 | 1.0 | 1.5 | 2RM800-8 |
| 2RP075L-8 | 2RP075M-8 | 75 \pm 20% | 600 | 20 | 20 | 500 | 25 | 1.0 | 1.5 | 2RP075-8 |
| 2RP090L-8 | 2RP090M-8 | 90 \pm 20% | 600 | 20 | 20 | 500 | 50 | 1.0 | 1.5 | 2RP090-8 |
| 2RP120L-8 | 2RP120M-8 | 120 \pm 20% | 600 | 20 | 20 | 500 | 50 | 1.0 | 1.5 | 2RP120-8 |
| 2RP145L-8 | 2RP145M-8 | 145 \pm 20% | 700 | 20 | 20 | 500 | 100 | 1.0 | 1.5 | 2RP145-8 |
| 2RP150L-8 | 2RP150M-8 | 150 \pm 20% | 700 | 20 | 20 | 500 | 100 | 1.0 | 1.5 | 2RP150-8 |
| 2RP230L-8 | 2RP230M-8 | 230 \pm 20% | 700 | 20 | 20 | 500 | 100 | 1.0 | 1.5 | 2RP230-8 |
| 2RP250L-8 | 2RP250M-8 | 250 \pm 20% | 800 | 20 | 20 | 500 | 100 | 1.0 | 1.5 | 2RP250-8 |
| 2RP300L-8 | 2RP300M-8 | 300 \pm 20% | 900 | 20 | 20 | 500 | 100 | 1.0 | 1.5 | 2RP300-8 |
| 2RP350L-8 | 2RP350M-8 | 350 \pm 20% | 900 | 20 | 20 | 500 | 100 | 1.0 | 1.5 | 2RP350-8 |
| 2RP400L-8 | 2RP400M-8 | 400 \pm 20% | 1000 | 20 | 20 | 500 | 100 | 1.0 | 1.5 | 2RP400-8 |
| 2RP470L-8 | 2RP470M-8 | 470 \pm 20% | 1100 | 20 | 20 | 500 | 250 | 1.0 | 1.5 | 2RP470-8 |
| 2RP600L-8 | 2RP600M-8 | 600 \pm 20% | 1300 | 20 | 20 | 500 | 250 | 1.0 | 1.5 | 2RP600-8 |
| 2RP800L-8 | 2RP800M-8 | 800 \pm 20% | 1500 | 20 | 20 | 500 | 250 | 1.0 | 1.5 | 2RP800-8 |

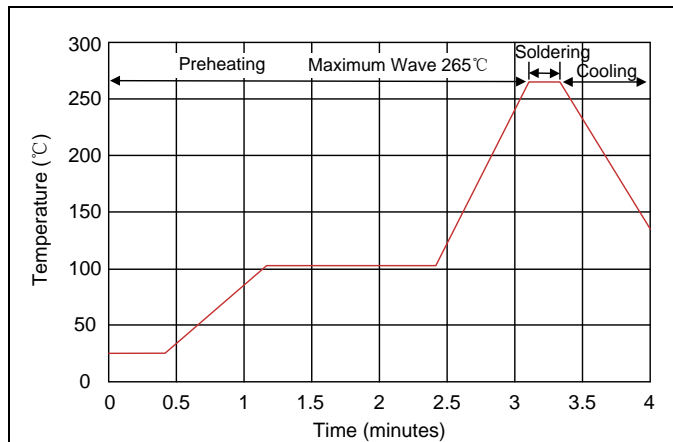
Notes: The surface for 2RXXXXM-8 series products is default for nickel plating, please change to use tin plating if used on PCB boards while soldering, and adding the code "Sn" as suffix of the part number to distinguish.

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.  | |
| 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 | |

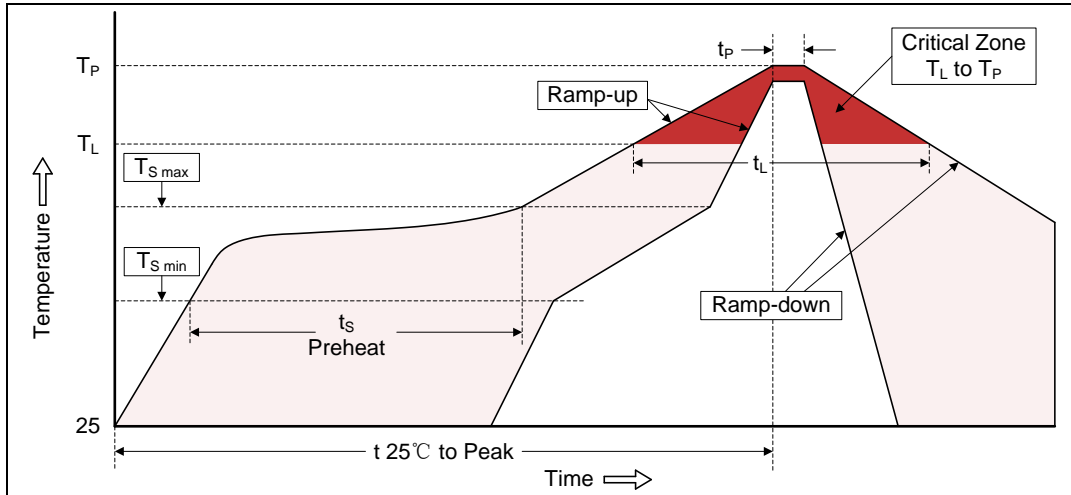
Recommended Soldering Conditions

Wave Soldering



| Item | Conditions |
|------------------|------------|
| Peak Temperature | 265°C |
| Dipping Time | 10 seconds |
| Soldering | 1 time |

Reflow Soldering

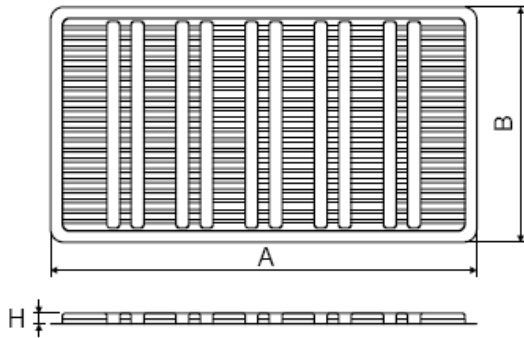


| Profile Feature | Pb-Free Assembly |
|---|----------------------------------|
| Average ramp-up rate (T_L to T_P) | 3°C/second max. |
| Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s) | 150°C 200°C 60-180 seconds |
| $T_{S\ max}$ to T_L -Ramp-up Rate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

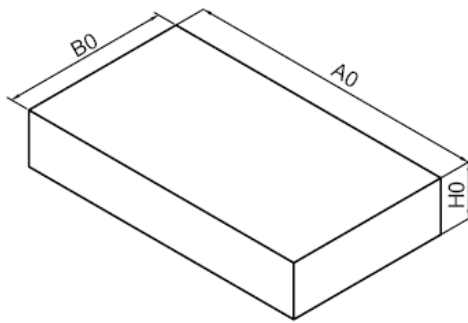
Axial Packing (Bulk)

Skin packing



| Symbol | Dimension (mm) | |
|------------------|----------------|-----------|
| | Spec. | Tolerance |
| A | 264.0 | ±1.0 |
| B | 145.0 | ±1.0 |
| H | 6.5 | ±0.5 |
| Quantity: 100pcs | | |

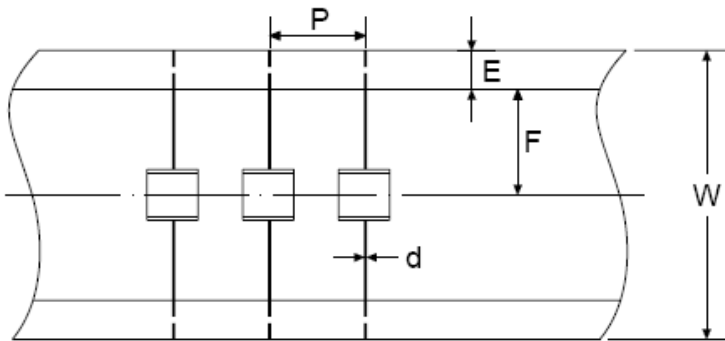
Inner box



| | | |
|------------------|-------|------|
| A0 | 270.0 | ±2.0 |
| B0 | 150.0 | ±1.0 |
| H0 | 50.0 | ±1.0 |
| Quantity: 500pcs | | |

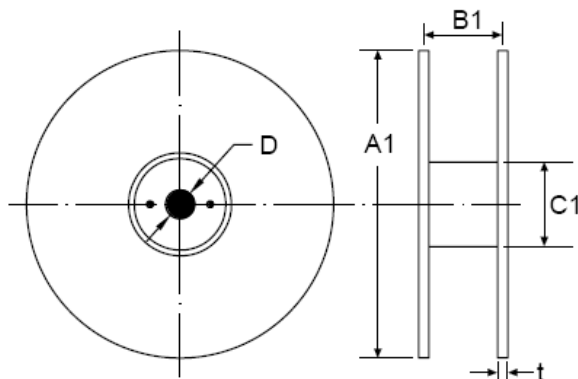
Axial Packing (Tape & Reel)

Tape



| Symbol | Dimension (mm) | |
|--------|----------------|-----------|
| | Spec. | Tolerance |
| P | 10.0 | ±0.3 |
| W | 65.0 | ±0.3 |
| E | 6.0 | ±0.3 |
| F | 26.5 | ±0.3 |
| d | 0.8 | ±0.05 |

Reel

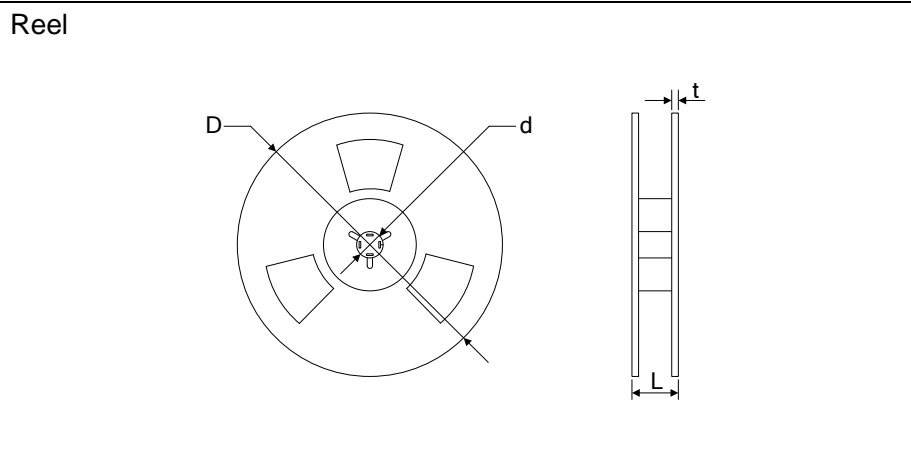
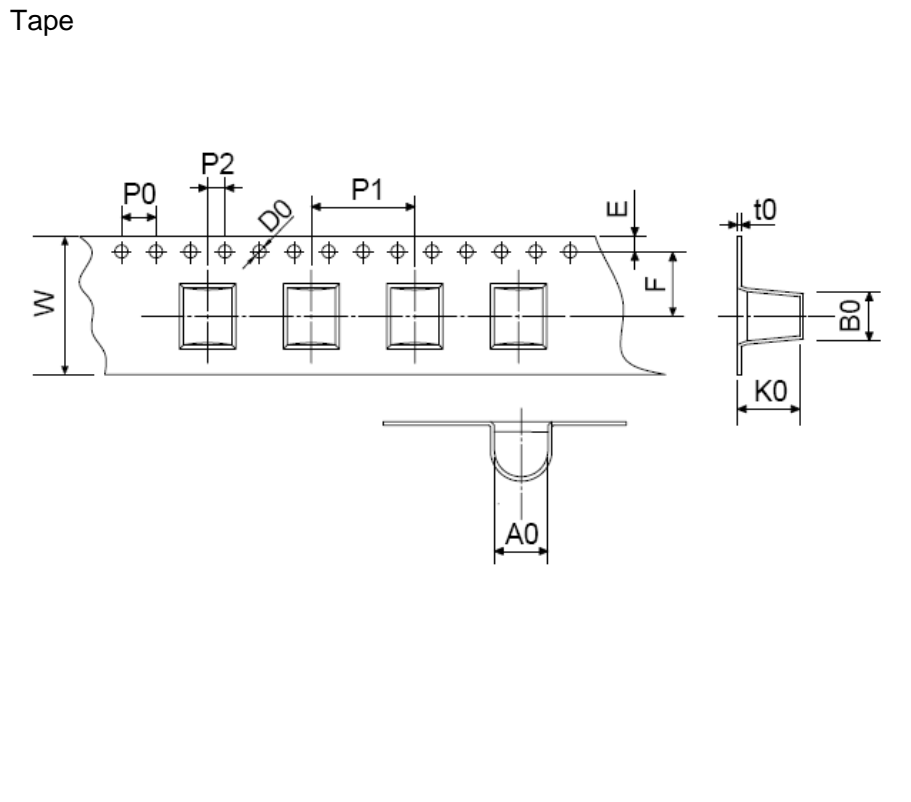


| | | |
|------------------|-------|------|
| A1 | 330.0 | ±1.0 |
| B1 | 70.0 | ±1.0 |
| C1 | 82.0 | ±1.0 |
| D | 25.0 | ±0.2 |
| t | 2.0 | ±0.2 |
| Quantity: 500pcs | | |

Packaging

SMD Packing (Tape & Reel)

| 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 | ±1.00 |
| d | 13.00 | ±0.50 |
| L | 20.00 | ±0.50 |
| t | 2.00 | ±0.20 |
| Quantity: 500pcs | | |





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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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