

Gas Discharge Tube (GDT) Data Sheet

Features

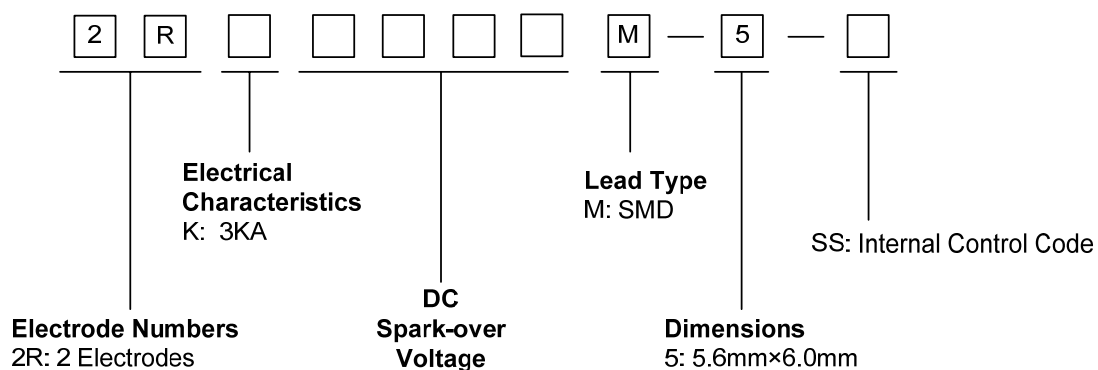
- Provide ultra-fast response to surge voltage from slow-rising surge of 100V/s to rapid-rising surge of 1KV/μs
- Stable breakdown voltage
- High insulation resistance
- Low capacitance (≤1.5pF)
- High holdover voltage
- Large absorbing transient current capability
- Micro-Gap Design
- Size: 5.6mm*6.0mm
- Storage and operating temperature: -40°C ~ +85°C
- Meets MSL level 1, per J-STD-020
- Safety certification: E327997



Applications

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

Part Number Code



Marking

B : BrightKing Logo
 2RK1000-5 : Device Marking Code
 YXXX : Date Code

Dimensions

| | Symbol | Dimension (mm) | |
|---|--------|----------------|-----------|
| | | Spec. | Tolerance |
| | D | 5.6 | ±0.2 |
| | D1 | 5.4 | ±0.2 |
| | T | 6.0 | ±0.2 |
| B | 0.5 | ±0.2 | |

Electrical Characteristics

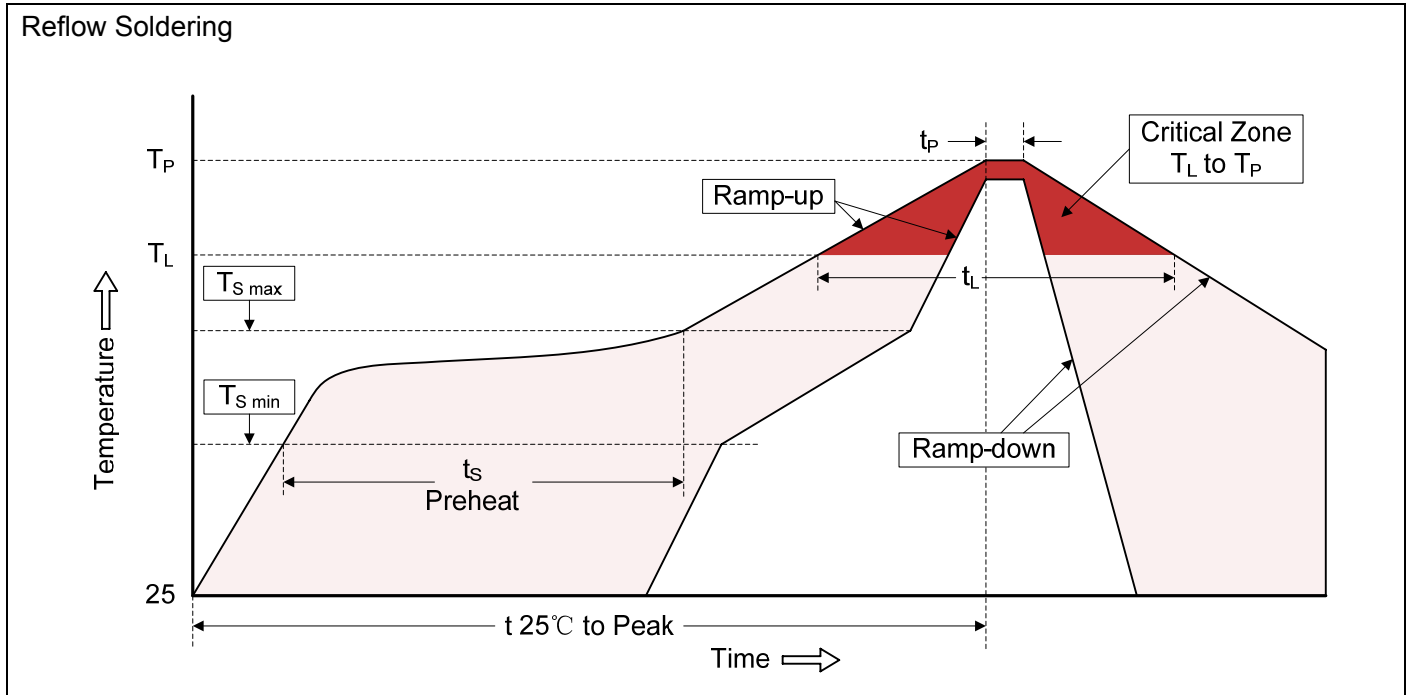
| Part Number | DC Spark-over Voltage | Maximum Impulse Spark-over Voltage | Nominal Impulse Discharge Current | Impulse Life | Minimum Insulation Resistance | | Maximum Capacitance | AC Withstanding Voltage | Device Marking Code |
|---------------|-----------------------|------------------------------------|-----------------------------------|----------------|-------------------------------|------|---------------------|-------------------------|---------------------|
| | 100V/s | 1000V/μs | 8/20μs 10times | 8/20μs 100A | Test Voltage | (GΩ) | 1MHz | | |
| | (V) | (V) | (KA) | (times) | DC(V) | | (pF) | | |
| 2RK1000M-5-SS | 1000±20% | 1900 | 3.0 | 300 | 500 | 1.0 | 1.5 | - | 2RK1000-5 |
| 2RK1200M-5-SS | 1200±20% | 2200 | 3.0 | 300 | 500 | 1.0 | 1.5 | - | 2RK1200-5 |
| 2RK1400M-5-SS | 1400±20% | 2600 | 3.0 | 300 | 500 | 1.0 | 1.5 | - | 2RK1400-5 |
| 2RK1600M-5-SS | 1600±20% | 2800 | 3.0 | 300 | 500 | 1.0 | 1.5 | - | 2RK1600-5 |
| 2RK2000M-5-SS | 2000±20% | 3200 | 3.0 | 300 | 500 | 1.0 | 1.5 | - | 2RK2000-5 |
| 2RK2500M-5-SS | 2500±20% | 3600 | 3.0 | 300 | 1000 | 1.0 | 1.5 | AC1250V,1min | 2RK2500-5 |

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 $dv/dt=1000V/\mu s$. | |
| 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 central value. | |

| | |
|-----------------------|---|
| 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



Recommended Conditions

| 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

| Tape | Symbol | Dimension (mm) | |
|---|--------|----------------|-----------|
| | | Spec. | Tolerance |
| <p>Technical drawing of a carrier tape showing dimensions: P0, P1, P2, D0, E, F, W, A0, B0, K0, and t0. The drawing includes a top view of the tape with five components, a side view of a component, and a detail view of the component's profile.</p> | W | 16.00 | ±0.20 |
| | P0 | 4.00 | ±0.10 |
| | P1 | 12.00 | ±0.10 |
| | P2 | 2.00 | ±0.10 |
| | D0 | 1.55 | ±0.10 |
| | E | 1.75 | ±0.10 |
| | F | 7.50 | ±0.10 |
| | A0 | 5.90 | ±0.10 |
| | B0 | 6.30 | ±0.10 |
| | K0 | 5.90 | ±0.10 |
| | t0 | 0.50 | ±0.10 |
| | D | 330.00 | ±2.00 |
| | d | 13.00 | ±0.50 |
| | L | 20.00 | ±2.00 |
| t | 2.00 | ±0.20 | |
| Quantity: 800pcs | | | |

Reel

