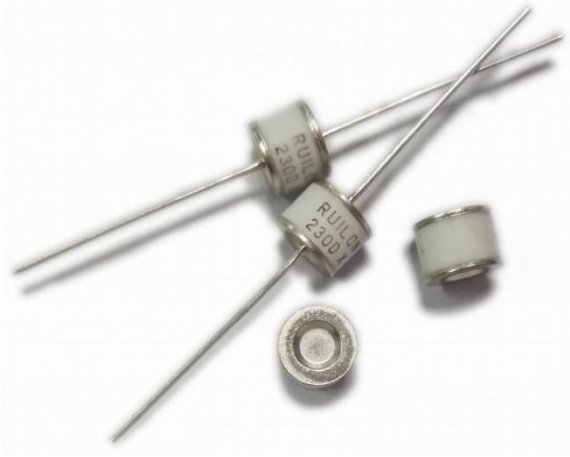
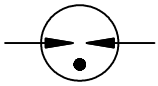
## Description

GDT is placed in front of, and in parallel with, sensitive telecom equipment such as power lines, communication lines, signal lines and data transmission lines to help protect them from damage caused by transient surge voltages that may result from lightning strikes and equipment switching operations. These devices do not influence the signal in normal operation. However, in the event of an overvoltage surge, such as a lightning strike, the GDT switches to a low impedance state and diverts the energy away from the sensitive equipment.

Our GDT offer a high level of surge protection, a broad voltage range, low capacitance, and many form factors including new surface mount devices, which makes them suitable for applications such as Main Distribution Frame (MDF) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge protection on power lines. Their low capacitance also results in less signal distortion. When used in a coordinated circuit protection solution with PolySwitch devices, they can help equipment manufacturers meet stringent safety regulatory standards.



## Electrical symbol



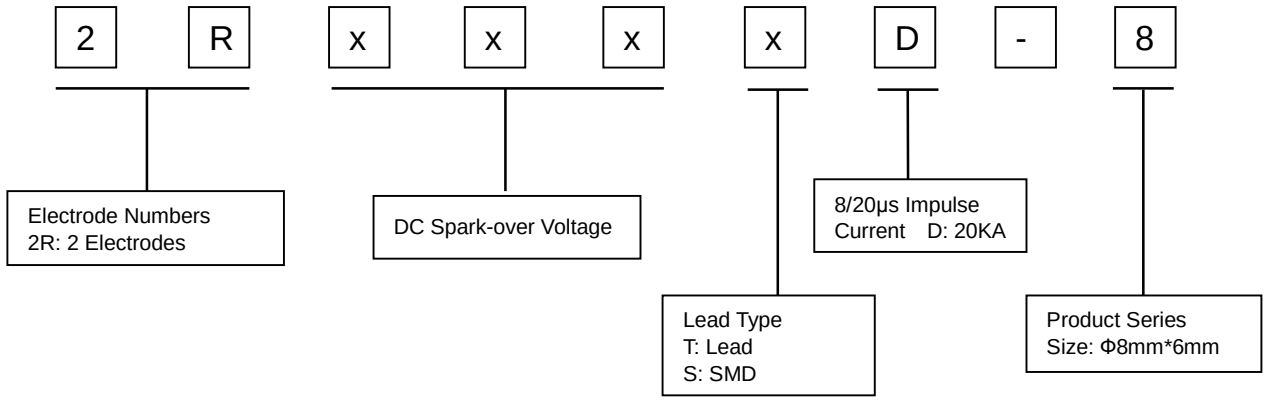
## Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- GHz working frequency
- 8/20μs Impulse current capability: 20KA
- Non-Radioactive
- Ultra Low capacitance (<1.5pF)
- Lead-free and RoHS compliant
- UL 497B Recognized: E465335
- Size: Φ8mm*6mm
- Storage and operational temperature: -40~+90°C

## Applications

- MDF modules
- xDSL equipment
- RF systems
- Antenna
- Base stations
- Repeaters, Modems
- Telephone Interface, Line cards
- Data communication equipment
- Line test equipment
- Power supplies
- Surge protectors, Alarm systems

## Part Number Code



## Electrical Characteristics

| Part Number | | DC Spark-over Voltage [1) 2)] @100V/S | Impulse Spark-over Voltage | | Insulation Resistance [3)] | Capacitance @1MHz | Life Ratings | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 100V/μS | 1KV/μS | | | Impulse Discharge Current @8/20μS | | AC Discharge Current @50Hz 1S | Impulse Life @10/1000μS 100A |
| | | | Max | Max | Min | Max | Nominal ±5 times | Max 1 time | Nominal 5 times | Min |
| DIP | SMD | V | V | V | GΩ | pF | KA | KA | A | Times |
| 2R075TD-8 | 2R075SD-8 | 75±20% | 500 | 600 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R090TD-8 | 2R090SD-8 | 90±20% | 500 | 600 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R150TD-8 | 2R150SD-8 | 150±20% | 500 | 600 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R230TD-8 | 2R230SD-8 | 230±20% | 600 | 700 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R250TD-8 | 2R250SD-8 | 250±20% | 600 | 700 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R300TD-8 | 2R300SD-8 | 300±20% | 750 | 850 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R350TD-8 | 2R350SD-8 | 350±20% | 800 | 900 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R420TD-8 | 2R420SD-8 | 420±20% | 850 | 950 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R470TD-8 | 2R470SD-8 | 470±20% | 900 | 1000 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R600TD-8 | 2R600SD-8 | 600±20% | 1000 | 1200 | 1 | 1.5 | 20 | 25 | 20 | 300 |
| 2R800TD-8 | 2R800SD-8 | 800±20% | 1300 | 1400 | 1 | 1.5 | 20 | 25 | 20 | 300 |

| | |
|---|---|
| Glow Voltage at 10mA..... | ~60V |
| Arc Voltage at 1A..... | ~10V |
| Glow to Arc transition Current……..... | ~1.0A |
| Weight……..... | ~1.48g |
| Operation and storage temperature…… | -40~+90°C |
| Climatic category (IEC 60068-1)…….. | 40/90/21 |
| Marking, black……..... | **RUILON**<br>**xxx D X**<br>xxx -Nominal voltage<br>D -Nominal Impulse Discharge Current<br>X -Year of production |
| Surface treatment……..... | DIP -Nickel Plated<br>SMD -Matte-tin plated |

[1)] At delivery AQL 0.65 level II, DIN ISO 2859

[2)] In ionized mode

[3)] Insulation Resistance Measuring Voltage:

75V at DC 25V

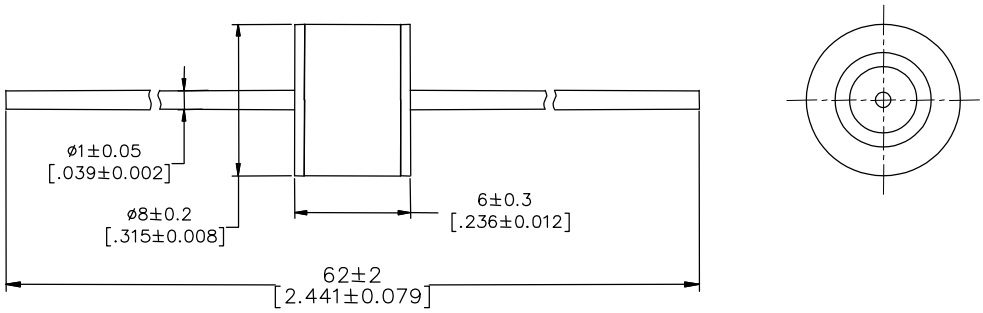
90V~150V at DC 50V

Other at DC 100V

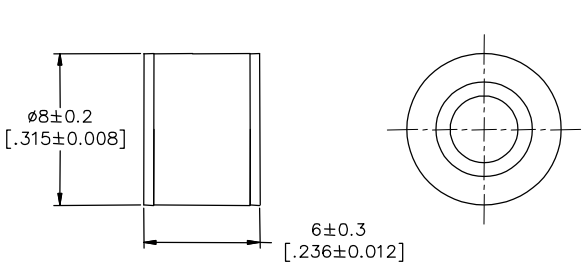
Terms in accordance with ITU-T Rec. K.12, IEC 61643-311, GB/T 9043.

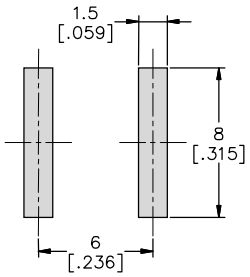
## Dimensions (Unit: mm/inch)

### DIP Series (2RxxxTD-8)




### SMD Series (2RxxxSD-8)



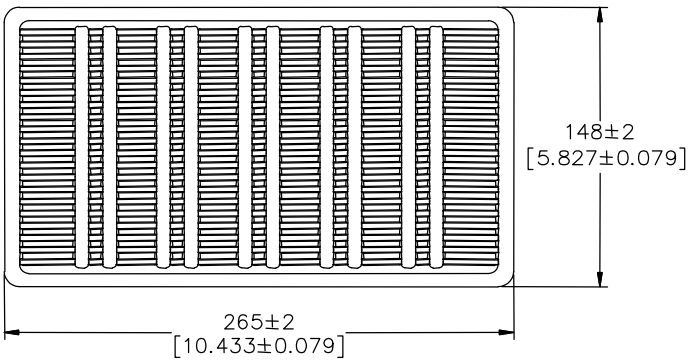




**Recommended Soldering Pad Layout**

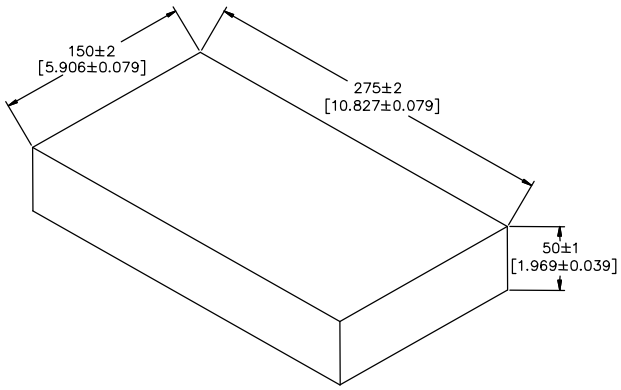
## Packaging Information (Unit: mm/inch)

### Axial Packaging (Bulk)

**Plastic Tray**




**Inner box**




### Packaging Quantity:

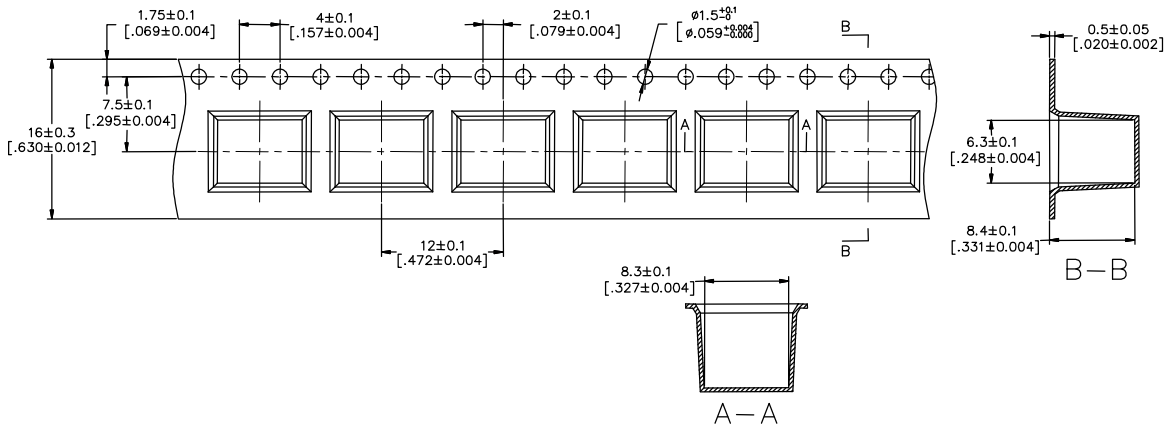
1,00 PCS per Plastic Tray

5 Plastic Trays per inner box

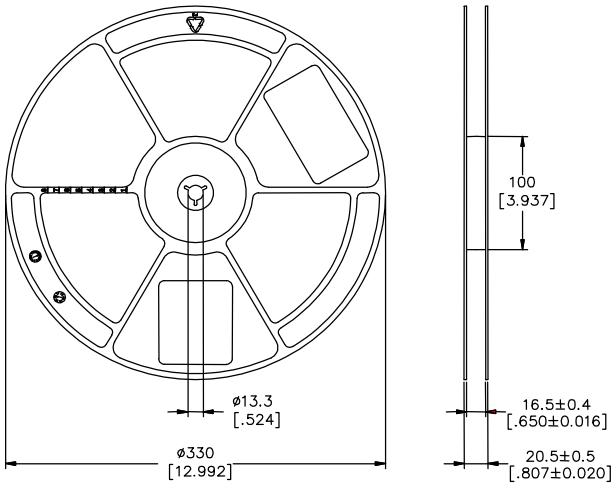
500 PCS per inner box

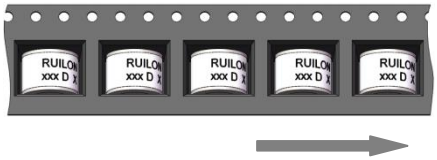
## SMD Packaging (Tape & Reel)

### Tape



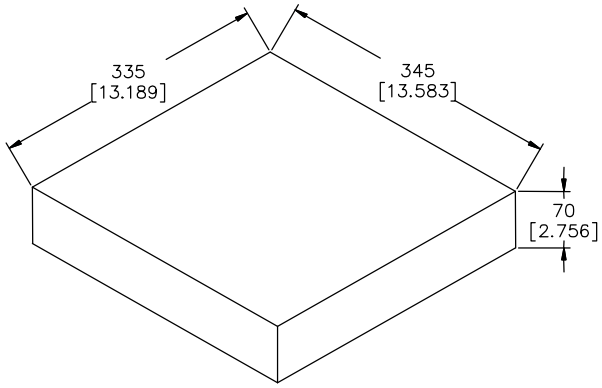

### Reel




Direction of Unreeling

### Inner box



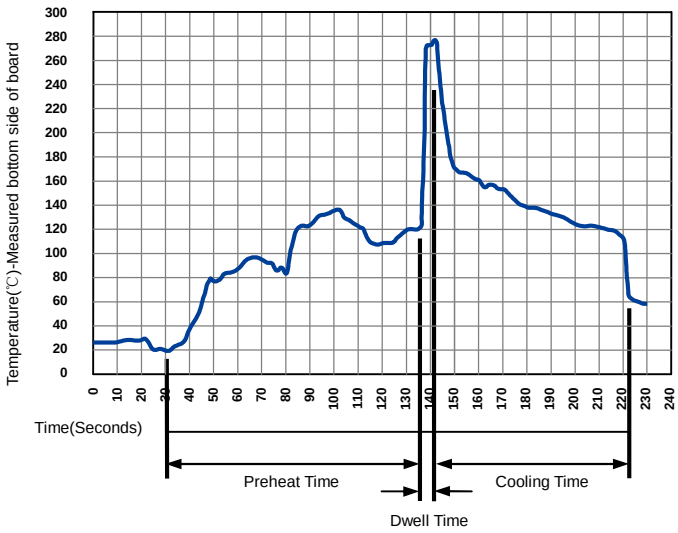

**Packaging Quantity:**

500 PCS per reel (13”)

3 reels per inner box

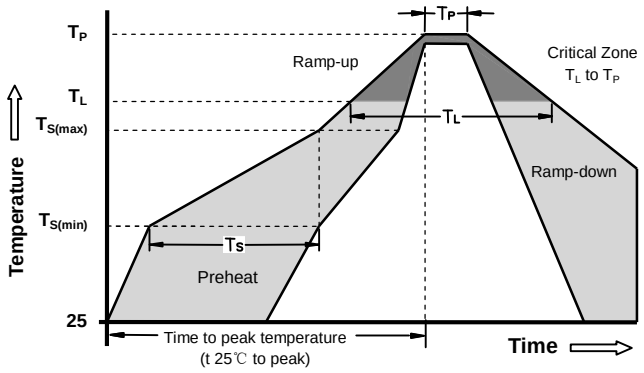
1,500 PCS per inner box

## Soldering Parameters - Wave soldering (Thru-Hole Devices)




| Wave Soldering Condition | | Pb-Free assembly |
|---|---|---|
| Preheat | Temperature Min | 100°C |
| | Temperature Max | 150°C |
| | Time (Min to Max) | 60-180 Seconds |
| Solder Pot Temperature | | 280°C Max |
| Solder Dwell Time | | 2-5 Seconds |

## Soldering Parameters - Reflow Soldering (Surface Mount Devices)




| Reflow Condition | | Pb - Free assembly |
|---|---|---|
| Preheat | -Temperature Min ($T_{s(min)}$) | 150°C |
| | -Temperature Max ($T_{s(max)}$) | 200°C |
| | - Time (min to max) ($t_s$) | 60 -180 Seconds |
| Average ramp up rate ( Liquids Temp $T_L$) to peak | | 3°C/second max |
| $T_{S(max)}$ to TL - Ramp-up Rate | | 5°C/second max |
| Reflow | - Temperature ($T_L$) (Liquids) | 217°C |
| | - Time (min to max) ($t_s$) | 60 -150 Seconds |
| Peak Temperature ($T_P$) | | 260 +0/-5°C |
| Time within 5°C of actual peak Temperature ($t_p$) | | 10 - 30 Seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature ($T_P$) | | 8 minutes Max |
| Do not exceed | | 260°C |

# Unikeyic Electronics

Global Electronic Components Distributor

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## RUILON:

20D561K RLVR240-012 SMD0805P075TF 5KP24CA 5KP36A GR5M RL0603E005M500K RL16-600 RLVR240-100 10D820K P6KE100A RL0603E005M100K SMD1812P030TF 10D102K NTC12D-7 SMD1812P125TF SMD1812P300TF/16 SMD1210P075TF 1.5KE36CA ES2D RL30-200 RLM102-201M RLSO8A2.84LV SMD3216-400N RLVR240-200 SMD1206P035TF 14D390K RL60-185 RLST23A032V SMFJ30A