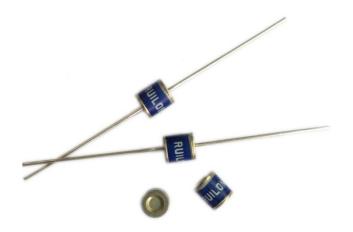
### 2RA-5 Series

# **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**

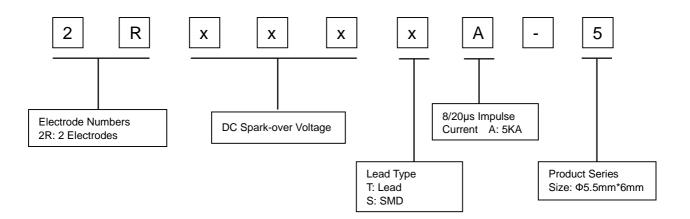
- I Excellent response to fast rising transients
- I Stable breakdown voltage
- I GHz working frequency
- I 8/20µs Impulse current capability: 5KA
- I Non-Radioactive
- I Ultra Low capacitance (<1pF)
- I Lead-free compliant
- I RoHS and REACH compliant
- I UL 497B Recognized: E465335
- I Size: Φ5.5mm\*6mm
- I Storage and operational temperature: -40~+90°C

# **Applications**

- I CATV equipment
- I Antennas
- I RS 485
- I Telecom Base Station
- I Power Supply AC Main
- I EV power Charging
- I Inverter/Variable
- I Frequency Drivers (VFDs)
- I IEEE 802.3 compliant Ethernet interfaces

- Broad Band equipment
- I xDSL, ADSL, ADSL2, VDSL, and VDSL2
- I Medical Electronics
- I Test Equipment
- I General Telecom Equipment
- I Renewable Energy

### **Part Number Code**





2RA-5 Series

### **Electrical Characteristics**

| Part Number                       |                 | DC<br>Spark-over<br>Voltage <sup>1) 2)</sup><br>@100V/S | Impulse<br>Spark-over<br>Voltage<br>100V/µS 1KV/µS |         | Insulation                              |                      | Life Ratings                            |    |                                     |                                    |
|-----------------------------------|-----------------|---|--|---------|---|----------------------|---|----|-------------------------------------|------------------------------------|
|                                   |                 |   |  |         | Resistance                              | Capacitance<br>@1MHz | Impulse Discharge<br>Current<br>@8/20µS |    | AC Discharge<br>Current<br>@50Hz 1S | Impulse Life<br>@10/1000µS<br>100A |
|                                   |                 |   |  |         |   |                      |   |    |                                     |                                    |
|                                   |                 |   | DIP  | SMD     | v                                       | V                    | ٧                                       | GΩ | pF                                  | KA                                 |
| 2R075TA-5                         | 2R075SA-5       | 75±20%  | 500  | 600     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R090TA-5                         | 2R090SA-5       | 90±20%  | 500  | 600     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R150TA-5                         | 2R150SA-5       | 150±20%   | 500  | 600     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R230TA-5                         | 2R230SA-5       | 230±20%   | 600  | 700     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R250TA-5                         | 2R250SA-5       | 250±20%   | 600  | 700     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R300TA-5                         | 2R300SA-5       | 300±20%   | 750  | 850     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R350TA-5                         | 2R350SA-5       | 350±20%   | 800  | 900     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R400TA-5                         | 2R400SA-5       | 400±20%   | 850  | 950     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R420TA-5                         | 2R420SA-5       | 420±20%   | 850  | 950     | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R470TA-5                         | 2R470SA-5       | 470±20%   | 900  | 1000    | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R600TA-5                         | 2R600SA-5       | 600±20%   | 1000   | 1200    | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| 2R800TA-5                         | 2R800SA-5       | 800±20%   | 1200   | 1400    | 1                                       | 1                    | 5                                       | 10 | 5                                   | 300                                |
| Glow Voltage a                    | t 10mA          |   |  |         | ~60V                                    |                      |   |    |                                     |                                    |
| Arc Voltage at 1                  | IA              |   |  |         | ~10V                                    |                      |   |    |                                     |                                    |
| Glow to Arc tran                  | nsition Current |   |  |         | ~0.5A                                   |                      |   |    |                                     |                                    |
| Weight                            |                 |   |  |         | -0.82g<br>-0.55g                        |                      |   |    |                                     |                                    |
| Operation and storage temperature |                 |   |  | 40~+90  | )°C                                     |                      |   |    |                                     |                                    |
| Climatic category (IEC 60068-1)   |                 |   |  | 40/90/2 | 1                                       |                      |   |    |                                     |                                    |
| Marking, blue negative            |                 |   |  | XXX     | N XXX Y -Nominal voltag Year of product | •                    |   |    |                                     |                                    |
| Surface treatment                 |                 |   |  | DIP -   | Nickel Plated  Matte-tin plated         |                      |   |    |                                     |                                    |

<sup>&</sup>lt;sup>1)</sup> At delivery AQL 0.65 level II, DIN ISO 2859

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.



<sup>2)</sup> In ionized mode

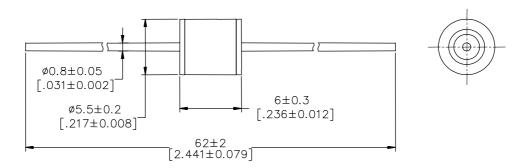
<sup>&</sup>lt;sup>3)</sup> Insulation Resistance Measuring Voltage:

2RA-5 Series

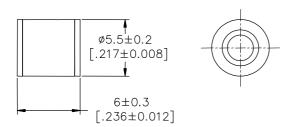
#### **Dimensions**

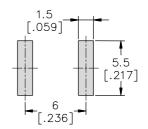
(Unit: mm/inch)

### DIP Series (2RxxxTA-5)



#### SMD Series (2RxxxSA-5)



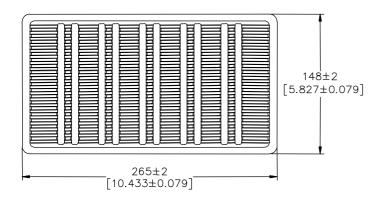


**Recommended Soldering Pad Layout** 

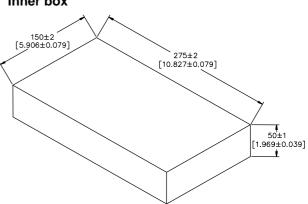
#### **Packaging Information** (Unit: mm/inch)

# **Axial Packaging (Bulk)**

#### **Plastic Tray**



### Inner box



### **Packaging Quantity:**

100 PCS per Plastic Tray

5 Plastic Trays per inner box

500 PCS per inner box



2RA-5 Series

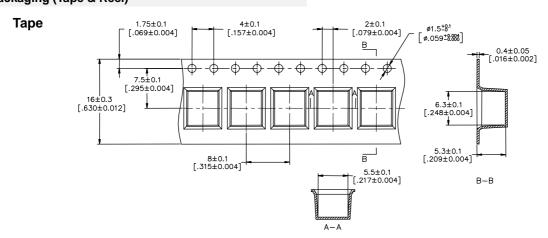
### **Axial Packaging (Tape & Reel)**

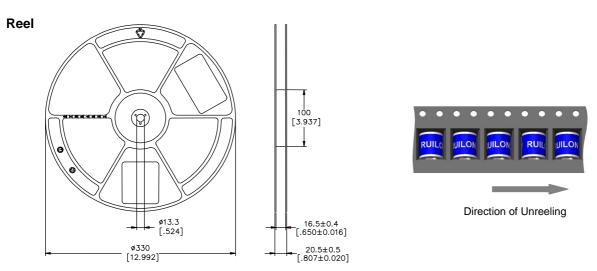
**Tape** Reel 72±2 [2.835±0.079] \_\_\_65±2 [2.559±0.079] ø16±1 [ø.63±0.039] \_\_\_\_23.5±1 [.925±0.039] \_\_\_\_23.5±1 [.925±0.039] 10±0.5 [.394±0.020] 1 2Max 82±2 [.047Max.] ø330±2 [12.992±0.079] [3.228±0.079] 1.2Max. [.047Max.] 2.5±0.5 [.098±0.020] **Packaging Quantity:** 

1000 PCS per reel

## SMD Packaging (Tape & Reel)

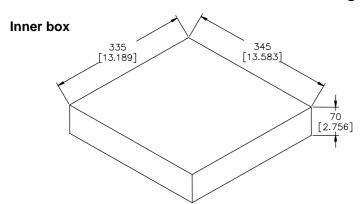
\_\_\_6±1 [.236±0.039] 6±0.3 [.236±0.012]







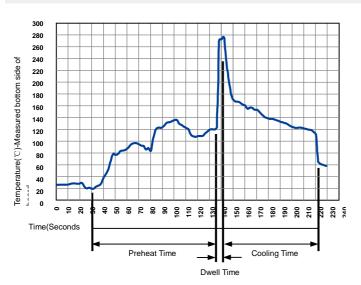
# 2RA-5 Series



### **Packaging Quantity:**

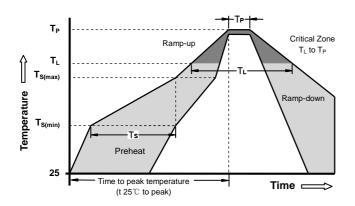
- 1,000 PCS per reel (13")
- 3 reels per inner box
- 3,000 PCS per inner box

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



| Wave Solo  | lering 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 Dw  | ell Time          | 2-5 Seconds      |  |  |

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



| Reflow Co                | ndition  | Pb - Free assembly |  |  |  |
|--------------------------|--|--------------------|--|--|--|
|                          | -Temperature Min (T <sub>s(min)</sub> )        | 150°C              |  |  |  |
| Preheat                  | -Temperature Max (T <sub>s(max)</sub> )        | 200°C              |  |  |  |
|                          | - Time (min to max) (t <sub>s</sub> )          | 60 -180 Seconds    |  |  |  |
| Average ra               | amp up rate ( Liquids Temp<br>k                | 3°C/second max     |  |  |  |
| T <sub>S(max)</sub> to T | L - Ramp-up Rate                               | 5°C/second max     |  |  |  |
| Reflow                   | - Temperature (T <sub>L</sub> )<br>(Liquids)   | 217°C              |  |  |  |
|                          | - Time (min to max) (t <sub>s</sub> )          | 60 -150 Seconds    |  |  |  |
| Peak Tem                 | perature (T <sub>P</sub> )                     | 260 +0/-5°C        |  |  |  |
| Time within Temperatu    | in 5°C of actual peak<br>ure (t <sub>p</sub> ) | 10 - 30 Seconds    |  |  |  |
| Ramp-dov                 | vn Rate  | 6°C/second max     |  |  |  |
| Time 25°C                | to peak Temperature (T <sub>P</sub> )          | 8 minutes Max      |  |  |  |
| Do not exc               | ceed   | 260°C              |  |  |  |



单击下面可查看定价,库存,交付和生命周期等信息

>>RUILON(瑞隆源)