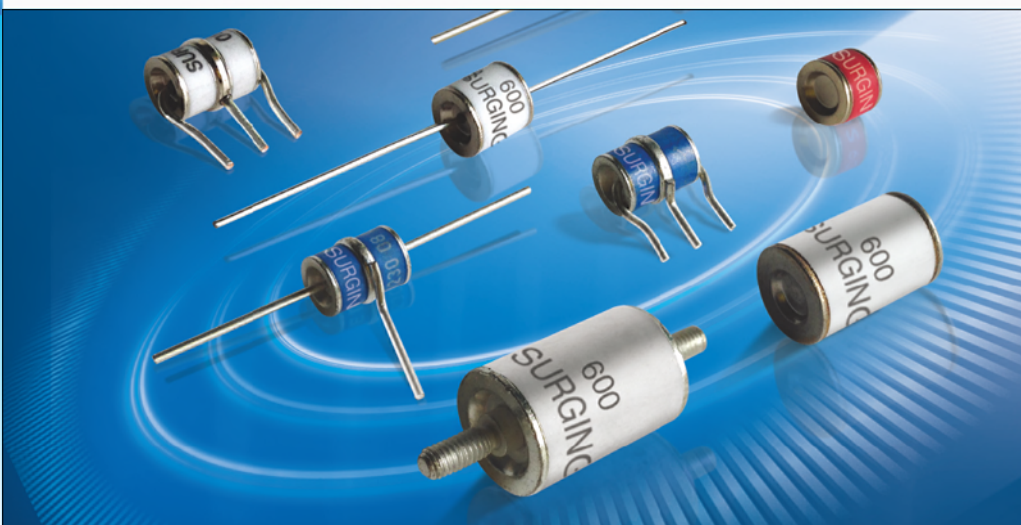


# SURGiNG

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# SurgeArresters

陶瓷气体放电管

SMD Series

## Gas Discharge Tubes - SMD Series



Gas discharge tubes (GDT) use noble gasses enclosed in ceramic tubes to provide an alternate circuit path for voltage spikes. The ceramic envelope and with nickel connectors allow for high loads and SURGING offers products that function at 20KA, 40KA, 50KA, 60KA, 100KA & 150KA. The breakdown voltages of the devices have a wide range (up to 20% tolerance). Major applications are high frequency telecommunication lines, stations, security systems, HID and high quality Surge Protection Devices (SPD).

### Features

- RoHS & HF compliant
- Size: 4.5mm\*3.2mm
- DC Spark-over voltage: 75~1000V
- Stable breakdown voltage.
- High insulation resistance.
- High holdover voltage.
- Large absorbing transient current capability.
- Low Capacitance
- Micro-Gap Design

### Recommended Applications

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

### Product Name

# SMD 230XM

**Sries:**

SMD系列: 4532=1812(4.5\*3.2\*2.7)  
SMB系列: 3216=1206(3.2\*1.6\*1.6)

**DCLineVoltage:**

230X=230V  
102X=1000V

## Gas Discharge Tubes - SMD Series

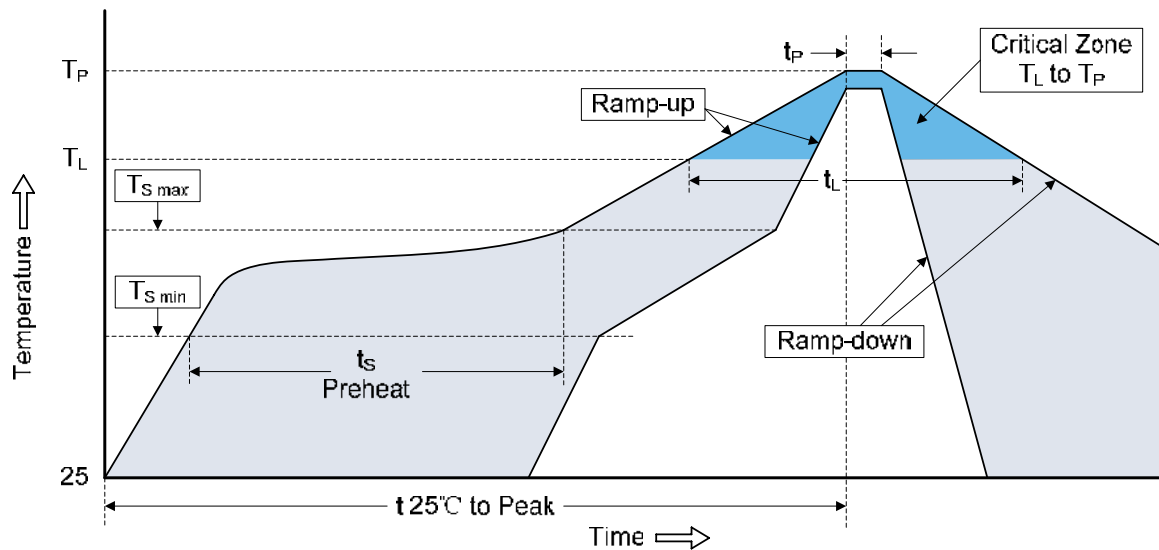
### Electrical Characteristics

| Part Number | DC Spark-over Voltage | Maximum Impulse Spark-over Voltage | Minimum Insulation Resistance |               | Impulse Life Test  | Nominal Impulse Discharge Current | Maximum Capacitance |
|-------------|-----------------------|------------------------------------|-------------------------------|---------------|--------------------|-----------------------------------|---------------------|
|             | 100V/S                | 1KV/ $\mu$ s                       | Test Voltage                  | (G $\Omega$ ) | 8/20 $\mu$ s, 100A | 8/20 $\mu$ s                      | 1MHz                |
|             | (V)                   | (V)                                | DC(V)                         |               | Times              | (A)                               | (pF)                |
| SMD70XM     | 70 (50~90)            | 600                                | 50                            | 1             | 300                | 3000                              | 0.5                 |
| SMD75XM     | 75 (55~95)            | 600                                | 50                            | 1             | 300                | 3000                              | 0.5                 |
| SMD90XM     | 90 (63~117)           | 700                                | 50                            | 1             | 300                | 3000                              | 0.5                 |
| SMD120XM    | 120 (84~156)          | 700                                | 50                            | 1             | 300                | 3000                              | 0.5                 |
| SMD150XM    | 150 (105~195)         | 750                                | 50                            | 1             | 300                | 3000                              | 0.5                 |
| SMD200XM    | 200 (140~260)         | 750                                | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD230XM    | 230 (161~299)         | 750                                | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD300XM    | 300 (210~390)         | 800                                | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD350XM    | 350 (245~455)         | 900                                | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD400XM    | 400 (280~520)         | 950                                | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD420XM    | 420 (294~546)         | 950                                | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD470XM    | 470 (329~611)         | 1000                               | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD500XM    | 500 (350~650)         | 1100                               | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD600XM    | 600 (420~780)         | 1200                               | 100                           | 1             | 300                | 3000                              | 0.5                 |
| SMD800XM    | 800 (615~1040)        | 1300                               | 100                           | 1             | 300                | 2000                              | 1.0                 |
| SMD102XM    | 1000 (700~1300)       | 2000                               | 100                           | 1             | 300                | 2000                              | 1.0                 |

## Gas Discharge Tubes - SMD Series

### Recommended Soldering Conditions

Reflow Soldering



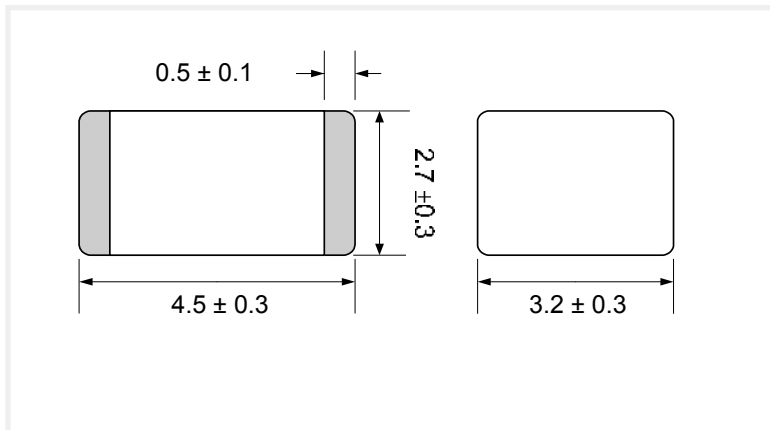
Recommended Conditions

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

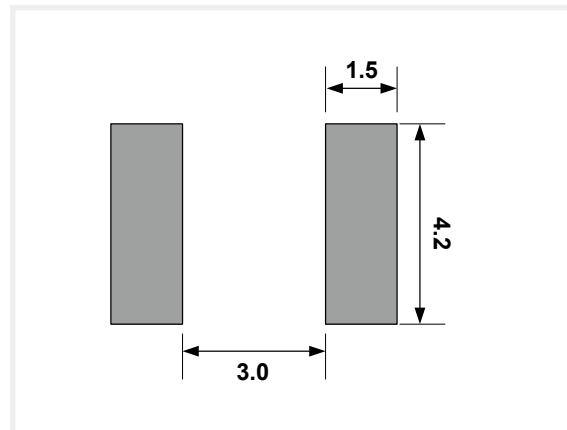
## Gas Discharge Tubes - SMD Series

### Product size (Unit:mm)

#### Dimension

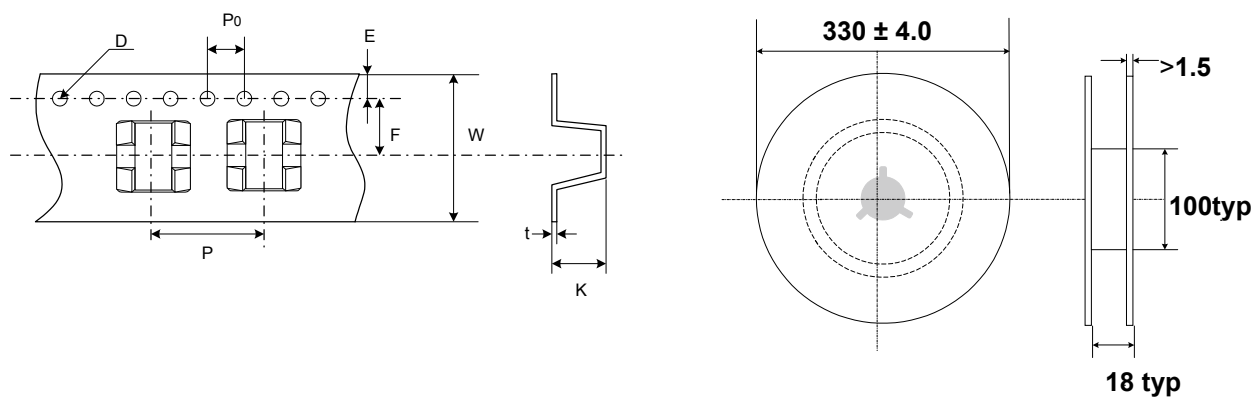


#### Recommended Pad Size



### Packaging Taping

Unit:mm



| Item      | P    | PO   | W     | F    | E    | D     | K    | t     |
|-----------|------|------|-------|------|------|-------|------|-------|
| Spec.     | 8.0  | 4.0  | 12.0  | 5.45 | 1.75 | Φ1.55 | 3.1  | 0.4   |
| Tolerance | ±0.1 | ±0.1 | ±0.13 | ±0.1 | ±0.1 | ±0.05 | ±0.1 | ±0.05 |