

SURGiNG

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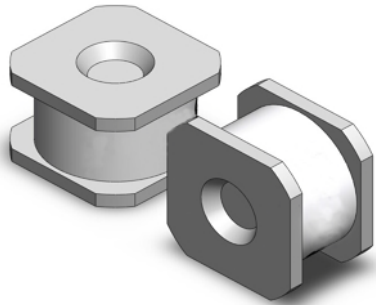


SurgeArresters

陶瓷气体放电管

SX6 Series

Gas Discharge Tubes - SX6 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:4.2mm*6.0mm
- DC Spark-over voltage: 75~3000V
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance (<1pF)
- High holdover voltage.
- Large absorbing transient current capability.
- Low Capacitance
- Micro-Gap Design

Recommended Applications

- Cable Modem
- xDSL
- Set-Top Box
- Satellite and CATV equipment
- Power supplier
- Consumer electronics
- General telecom equipment

Product Name

SX60 - 230X SMDT

Series:

SX6系列: ϕ 6. 2*4
SX5系列: ϕ 5. 5*6

LeadType:

0=SMD
1=Thrust

DCLineVoltage:

90X=90V
230X=230V

Package:

SMD=Cylinder No Lead
SMDT=2-SMD Cylinder Square End

Gas Discharge Tubes - SX6 Series

Electrical Characteristics

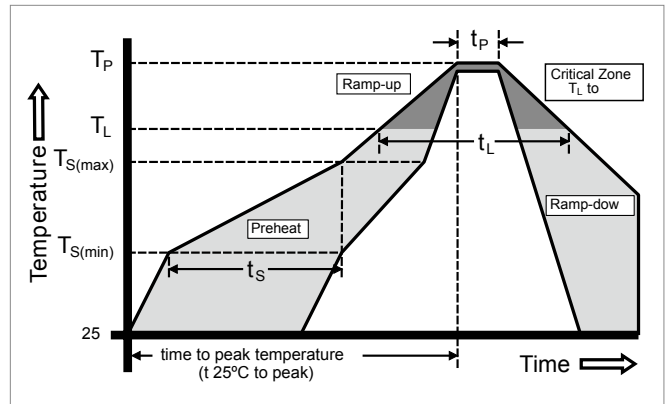
| Part Number | DC Spark-over Voltage | Maximum Impulse Breakdown Voltage | | Max. Impulse Discharge Current (8/20 μ s) | | Impulse Life (10/1000 μ s) | Normal Alternating Discharge Current | | DC Holdover Voltage | Minimum Insulation Resistance | Maximum Capacitance (1MHz) |
|----------------|-----------------------|-----------------------------------|--------------|---|----------|--------------------------------|--------------------------------------|-----------------|---------------------|-------------------------------|----------------------------|
| | | 100V/ μ S | 1KV/ μ s | 1 times | 10 times | | 50Hz 1Sec | Single 9 Cycles | | | |
| | (V) | (V) | (V) | (KA) | Times | (A) | | (V) | (G Ω) | (pF) | |
| SX60-75XSMDT | 75 \pm 20% | 600 | 700 | 8 | 5 | 500 | 5 | 15 | 52 | 1 | 0.8 |
| SX60-90XSMDT | 90 \pm 20% | 600 | 700 | 8 | 5 | 500 | 5 | 15 | 52 | 1 | 0.8 |
| SX60-150XSMDT | 150 \pm 20% | 500 | 700 | 8 | 5 | 500 | 5 | 15 | 52 | 1 | 0.8 |
| SX60-230XSMDT | 230 \pm 20% | 500 | 600 | 8 | 5 | 500 | 5 | 15 | 80 | 1 | 0.8 |
| SX60-250XSMDT | 250 \pm 20% | 500 | 600 | 8 | 5 | 500 | 5 | 15 | 150 | 1 | 0.8 |
| SX60-300XSMDT | 300 \pm 20% | 550 | 650 | 8 | 5 | 500 | 5 | 15 | 150 | 1 | 0.8 |
| SX60-350XSMDT | 350 \pm 20% | 600 | 700 | 8 | 5 | 500 | 5 | 15 | 150 | 1 | 0.8 |
| SX60-400XSMDT | 400 \pm 20% | 650 | 750 | 8 | 5 | 500 | 5 | 15 | 150 | 1 | 0.8 |
| SX60-470XSMDT | 470 \pm 20% | 750 | 850 | 8 | 5 | 500 | 5 | 15 | 150 | 1 | 0.8 |
| SX60-600XSMDT | 600 \pm 20% | 900 | 1000 | 8 | 5 | 500 | 5 | 15 | 150 | 1 | 0.8 |
| SX60-800XSMDT | 800 \pm 20% | 1000 | 1100 | 5 | 3 | 300 | 3 | 10 | 150 | 1 | 0.8 |
| SX60-1000XSMDT | 1000 \pm 20% | 1500 | 1600 | 5 | 3 | 300 | 3 | 10 | 150 | 1 | 0.8 |
| SX60-1200XSMDT | 1200 \pm 20% | 1700 | 1800 | 5 | 3 | 300 | 3 | 10 | 150 | 1 | 0.8 |
| SX60-1800XSMDT | 1800 \pm 20% | 2500 | 2600 | 5 | 3 | 300 | 3 | 10 | 150 | 1 | 0.8 |
| SX60-2000XSMDT | 2000 \pm 20% | 2700 | 2800 | 5 | 3 | 300 | 3 | 10 | 150 | 1 | 0.8 |
| SX60-2500XSMDT | 2500 \pm 20% | 3100 | 3200 | 5 | 3 | 300 | 3 | 10 | 150 | 1 | 0.8 |
| SX60-2700XSMDT | 2700 \pm 20% | 3300 | 3400 | 5 | 3 | 300 | 3 | 10 | 150 | 1 | 0.8 |
| SX60-3000XSMDT | 3000 \pm 20% | 3600 | 3700 | 5 | 3 | 300 | 3 | 10 | 150 | 1 | 0.8 |

| DC Spark-over Voltage | DC Measuring Voltage |
|-----------------------|----------------------|
| 75-90V | 50V |
| 150-400V | 100V |
| 470-800V | 250V |
| 1000-2000V | 500V |
| 2500-3000V | 1000V |

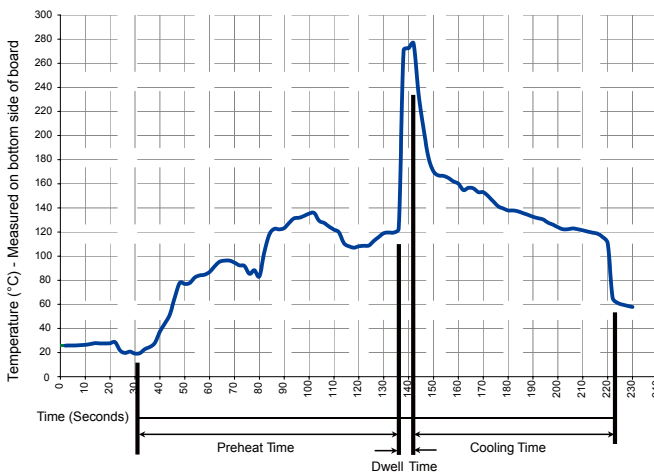
Gas Discharge Tubes - SX6 Series

Soldering parameters reflow soldering (surface mount devices)

| | | |
|--|------------------------------------|-------------------------|
| Reflow Condition | | Pb – Free assembly |
| Pre Heat | - Temperature Min ($T_{s(min)}$) | 150°C |
| | - Temperature Max ($T_{s(max)}$) | 200°C |
| | - Time (Min to Max) (t_s) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/second max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 5°C/second max |
| Reflow | - Temperature (T_L) (Liquidus) | 217°C |
| | - Temperature (t_L) | 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 |



Soldering parameters -wave soldering



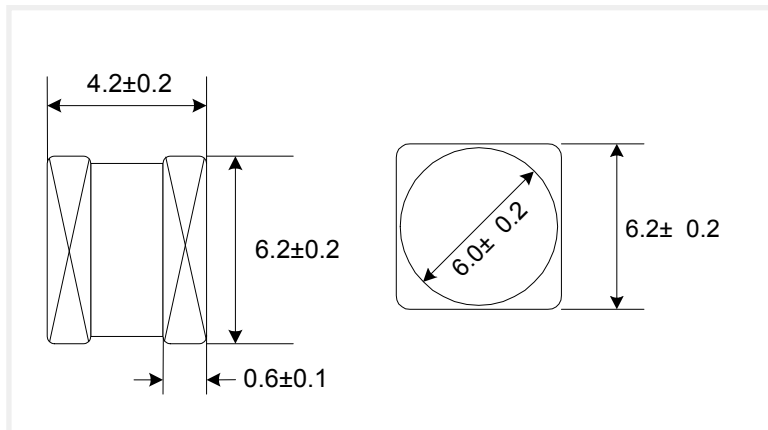
Recommended process parameters

| Wave Parameter | Lead-Free Recommendation |
|---|--------------------------|
| Preheat: (Depends on Flux Activation Temperature) (Typical Industry Recommendation) | |
| Temperature Minimum: | 100° C |
| Temperature Maximum: | 150° C |
| Preheat Time: | 60-180 seconds |
| Solder Pot Temperature: | 280° C Maximum |
| Solder Dwell Time: | 2-5 seconds |

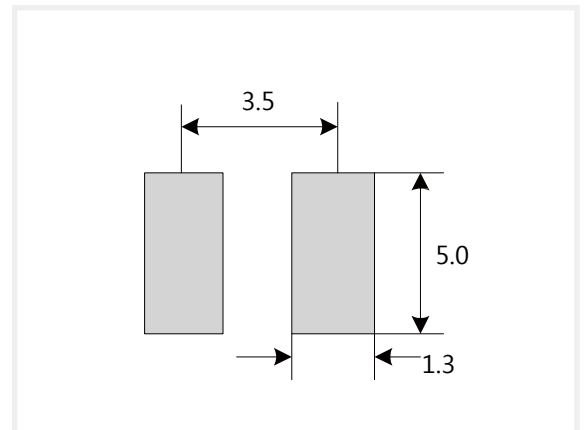
Gas Discharge Tubes - SX6 Series

Product size (Unit:mm)

Dimension

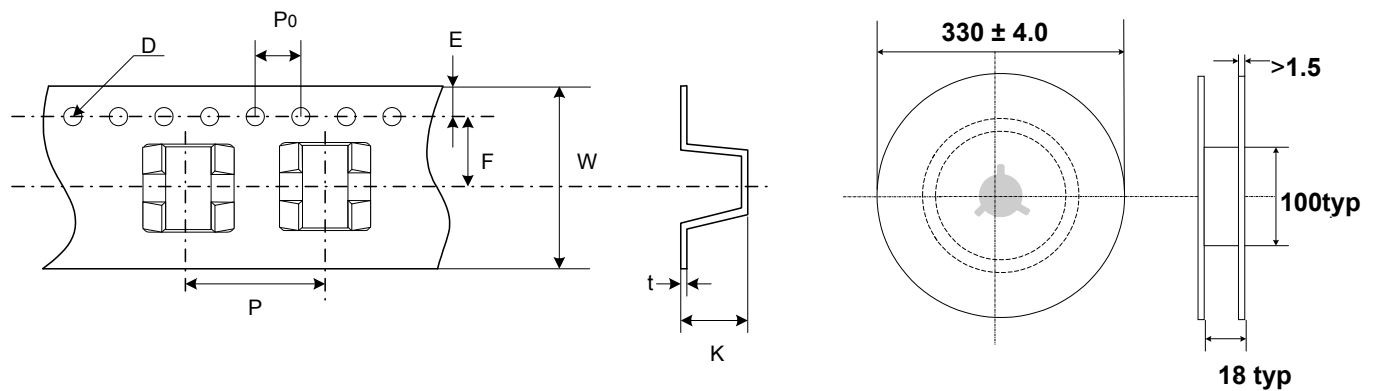


Recommended Pad Size



Packaging Taping

Unit:mm



Quantity: 900pcs per reel (13")

| Item | P | PO | W | F | E | D | K | t |
|-----------|-----------|-----------|-----------|-----------|-----------|-------------|-----------|------------|
| Spec. | 12.0 | 4.0 | 16.0 | 7.5 | 1.75 | $\Phi 1.55$ | 6.7 | 0.5 |
| Tolerance | ± 0.1 | ± 0.1 | ± 0.3 | ± 0.1 | ± 0.1 | ± 0.05 | ± 0.1 | ± 0.05 |