

## Axial Leaded Ceramic Gas Discharge Tube SC2E8-90ML RoHS Compliant

Our Product Introduction

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### Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: UL, REACH, RoHS, ISO
- Model Number: SC2E8-90ML
- Minimum Order Quantity: 1000PCS
- Price: Negotiable
- Delivery Time: 7-12 work days



### Product Specification

- Key Words: Lightning Arrester
- Footprint:  $\phi 8 \times 6\text{mm}$
- DC Spark-over Voltage @100V/ $\mu\text{s}$ :  $90\text{V} \pm 20\%$
- Max. Spark-over Impulse Voltage @100V/ $\mu\text{s}$ : 500V
- Max. Spark-over Impulse Voltage @1KV/ $\mu\text{s}$ : 600V
- Min. Insulation Resistance:  $1\text{G}\Omega$  (@50V)
- Nom. Impulse Discharge Current: 10KA
- Max. Impulse Discharge Current: 20KA
- Usage: Lightning Protection
- Highlight: **RoHS Gas Discharge Tube, Gas Discharge Tube SC2E8-90ML, Axial Leaded Ceramic Discharge Tube**



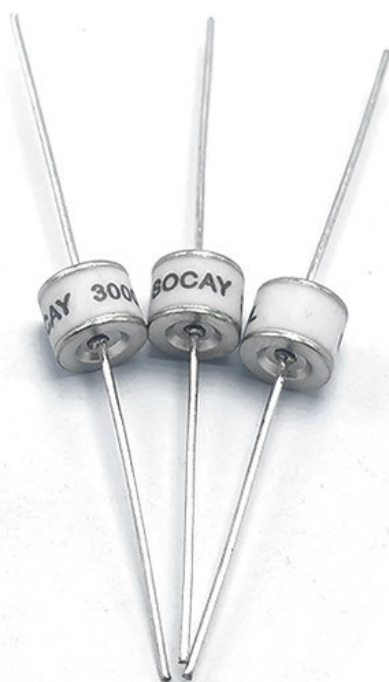
### More Images



**90V±20% Axial Leaded Ceramic Gas Discharge Tube SC2E8-90ML, RoHS Compliant**

### Selection principles for ceramic gas discharge tubes

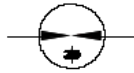
1. The prerequisite for the addition of ceramic gas discharge tubes is that the lower limit of the DC breakdown voltage of the ceramic gas discharge tube must be higher than the maximum normal operating voltage in the circuit, so that it cannot affect the normal operation of the circuit.
2. The overholding voltage of the ceramic gas discharge tube should be as high as possible to ensure that the working voltage in the circuit will not cause continuous conduction. When the overvoltage in the circuit disappears, ensure that the ceramic gas discharge tube is extinguished in time, otherwise it will affect the normal operation of the circuit.
3. Ensure that the impact breakdown voltage of the ceramic gas discharge tube must be lower than the highest instantaneous voltage that the circuit can withstand.
4. According to the intensity of the impulse current that may enter the line, determine the impulse current resistance capability that the selected discharge tube must achieve.
5. When necessary, the ceramic gas discharge tube should be equipped with an appropriate short-circuit device, FS device, also called a failure protection device.



| Part Number                                | Marking    | DC Spark-over Voltage | Maximum Impulse Spark-over Voltage |         | Minimum Insulation Resistance | Maximum Capacitance | Arc Voltage | Service Life                      |                               |                                   |                      |
|--------------------------------------------|------------|-----------------------|------------------------------------|---------|-------------------------------|---------------------|-------------|-----------------------------------|-------------------------------|-----------------------------------|----------------------|
|                                            |            |                       |                                    |         |                               |                     |             | Nominal Impulse Discharge Current | Max Impulse Discharge Current | Nominal Impulse Discharge Current | Impulse Life         |
|                                            |            | @100V/S               | @100V/μs                           | @1KV/μs |                               | @1MHz               | @1A         | @8/20μs ±5 times                  | @8/20μs 1 time                | @50Hz 1 Sec 10 times              | @10/1000μs 300 times |
| SC2E8-75M<br>SC2E8-75ML<br>SC2E8-75MSMD    | SOCAY 75M  | 75V±20%               | 500V                               | 600V    | 1 GΩ (at 25V)                 | 1.5pF               | ~15V        | 10KA                              | 20KA                          | 10A                               | 100A                 |
| SC2E8-90M<br>SC2E8-90ML<br>SC2E8-90MSMD    | SOCAY 90M  | 90V±20%               | 500V                               | 600V    | 1 GΩ (at 50V)                 | 1.5pF               | ~15V        | 10KA                              | 20KA                          | 10A                               | 100A                 |
| SC2E8-150M<br>SC2E8-150ML<br>SC2E8-150MSMD | SOCAY 150M | 150V±20%              | 500V                               | 600V    | 1 GΩ (at 50V)                 | 1.5pF               | ~20V        | 10KA                              | 20KA                          | 10A                               | 100A                 |
| SC2E8-230M<br>SC2E8-230ML<br>SC2E8-230MSMD | SOCAY 230M | 230V±20%              | 600V                               | 700V    | 1 GΩ (at 100V)                | 1.5pF               | ~20V        | 10KA                              | 20KA                          | 10A                               | 100A                 |

|                                            |               |          |      |      |                |       |      |      |      |     |      |
|--------------------------------------------|---------------|----------|------|------|----------------|-------|------|------|------|-----|------|
| SC2E8-250M<br>SC2E8-250ML<br>SC2E8-250MSMD | SOCAY<br>250M | 250V±20% | 700V | 800V | 1 GΩ (at 100V) | 1.5pF | ~20V | 10KA | 20KA | 10A | 100A |
| SC2E8-300M<br>SC2E8-300ML<br>SC2E8-300MSMD | SOCAY<br>300M | 300V±20% | 800V | 900V | 1 GΩ (at 100V) | 1.5pF | ~20V | 10KA | 20KA | 10A | 100A |
| SC2E8-350M<br>SC2E8-350ML<br>SC2E8-350MSMD | SOCAY<br>350M | 350V±20% | 800V | 900V | 1 GΩ (at 100V) | 1.5pF | ~20V | 10KA | 20KA | 10A | 100A |

### Schematic Symbol



### Product Characteristics

|                                            |                                                                                                   |        |
|--------------------------------------------|---------------------------------------------------------------------------------------------------|--------|
| <b>Materials</b>                           | <b>Leaded Device:</b> Nickel-plated with Tinplated wires<br><b>Surface Mount:</b> Dull Tin-plated |        |
| <b>Product Marking</b>                     | <b>SOCAY XXXM/H</b><br>XXX -Nominal voltage<br>M - 10KA<br>H - 20KA                               |        |
| <b>Glow to Arc Transition Current</b>      | < 0.5 Amps                                                                                        |        |
| <b>Glow Voltage</b>                        | ~60 Volts                                                                                         |        |
| <b>Storage and Operational Temperature</b> | -40 to +90 °C                                                                                     |        |
| <b>Weight</b>                              | SC2E8-XXXML                                                                                       | ~1.5g  |
|                                            | SC2E8-XXXHL                                                                                       | ~1.6g  |
|                                            | SC2E8-XXXM/H                                                                                      | ~1.35g |
|                                            | SC2E8-XXXM/HSMD                                                                                   | ~1.5g  |
| <b>Climatic category (IEC 60068-1)</b>     | 40/ 90/ 21                                                                                        |        |

### About GDT

Gas discharge tubes work according to the gas physics principle of high-efficiency arc discharge. From an electrical perspective, a gas discharge tube is equivalent to a pressure-sensitive switch. Once the voltage applied to the discharge tube exceeds the breakdown voltage, an arc will form in the sealed discharge area within nanoseconds. High surge current handling capabilities and an arc voltage that is almost independent of current short circuit overvoltages. When the discharge ends and the discharge tube goes out, the internal resistance immediately returns to several 100 MΩ. Therefore, gas discharge tubes meet almost all the requirements of the protected components. It can reliably limit overvoltage within the allowable value range, and under normal operating conditions, due to its high insulation resistance and low capacitance characteristics, the discharge tube will essentially have no impact on the protected system.

### Classification of ceramic gas discharge tubes

1. According to the number of electrodes, commonly used gas discharge tubes are divided into diode discharge tubes and triode discharge tubes. Most of their packaging materials are ceramics, so they are called ceramic discharge tubes.
2. According to the appearance size, commonly used gas discharge tubes are divided into chip discharge tubes and plug-in discharge tubes.
3. According to the product pulse voltage, commonly used gas discharge tubes are divided into conventional pulse discharge tubes and low pulse discharge tubes.



+8618126201429



sylvia@socay.com



socaydiode.com

4/F, Block C, HeHengXing Science & Technology Park, 19 MinQing Road, LongHua District, Shenzhen City, Guangdong Province, China