

High Voltage 2-Electrode Gas Discharge Tube (GDT)

SC2E5 Series

Description

The high voltage (1.0-3.5KV) gas discharge tubes are designed for surge protection and high isolation applications, and for applications for which bias voltages or signal levels of several hundred volts are normally present.

SC2E5-XXXXDL

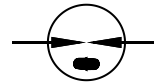
SC2E5-XXXX



Features

- ◆ Non-Radioactive
- ◆ RoHS compliant
- ◆ Low insertion loss
- ◆ Excellent response to fast rising transients
- ◆ Ultra low capacitance
- ◆ 2.5KA surge capability tested with 8/20μs pulse as defined by IEC 61000-4-5

Schematic Symbol



Applications

- ◆ CRT terminals
- ◆ CATV equipment
- ◆ Antennas
- ◆ Power supplies
- ◆ Medical electronics

Product Characteristics

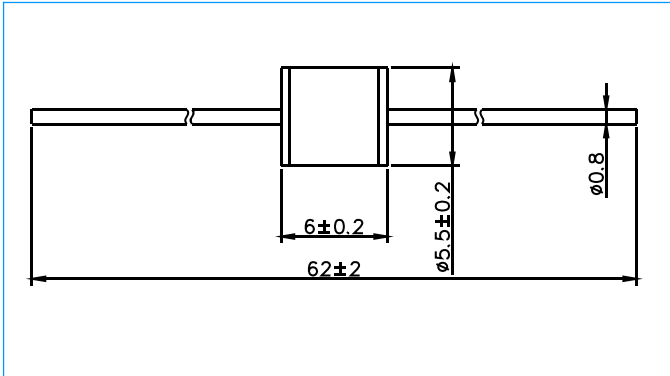
Materials	Nickel-plated with Tinplated wires	
Product Marking	SOCAY XXXXD XXXX -Nominal voltage D -2.5KA	
Glow to Arc Transition Current	< 0.5Amps	
Glow Voltage	~180 Volts	
Storage and Operational Temperature	-40 to +90°C	
Weight	SC2E5-XXXXDL	~1.0g
	SC2E5-XXXXD	~0.85g
Climatic category (IEC 60068-1)	40/ 90/ 21	

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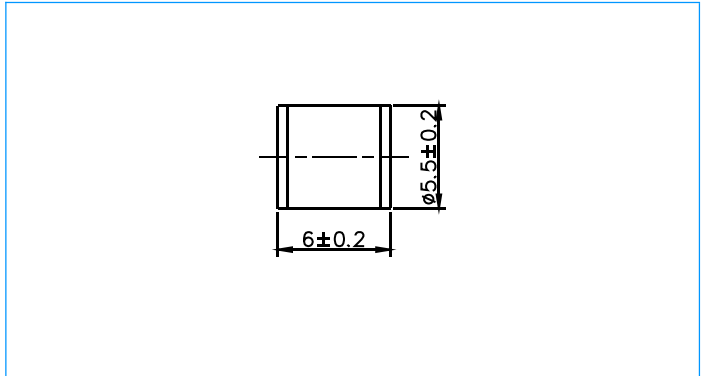
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Dimensions (Unit: mm)

Axial Leaded Devices (SC2E5-XXXDL)



Without wire Devices (SC2E5-XXXD)



Electrical Characteristics

Part Number	Marking	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage		Minimum Insulation Resistance	Maximum Capacitance	Arc Voltage	Service Life	
			@100V/μs	@1KV/μs				Nominal Impulse Discharge Current	Max Impulse Discharge Current
			@100V/S	@1KV/μs				@8/20μs ±5 times	@8/20μs 1 time
SC2E5-1000DL SC2E5-1000D	SOCAY 1000D	1000V±20%	<1500V	<1600V	1 GΩ (at 100V)	<1.0pF	~25V	2.5KA	5KA
SC2E5-1600DL SC2E5-1600D	SOCAY 1600D	1600V±20%	<2200V	<2400V	1 GΩ (at 100V)	<1.0pF	~25V	2.5KA	5KA
SC2E5-2000DL SC2E5-2000D	SOCAY 2000D	2000V±20%	<3000V	<3500V	1 GΩ (at 100V)	<1.0pF	~25V	2.5KA	5KA
SC2E5-2500DL SC2E5-2500D	SOCAY 2500D	2500V±20%	<3800V	<4000V	1 GΩ (at 100V)	<1.0pF	~25V	2.5KA	5KA
SC2E5-2700DL SC2E5-2700D	SOCAY 2700D	2700V±20%	<3800V	<4000V	1 GΩ (at 100V)	<1.0pF	~25V	2.5KA	5KA
SC2E5-3000DL SC2E5-3000D	SOCAY 3000D	3000V±20%	<4300V	<4500V	1 GΩ (at 100V)	<1.0pF	~25V	2.5KA	5KA
SC2E5-3500DL SC2E5-3500D	SOCAY 3500D	3500V±20%	<4800V	<5000V	1 GΩ (at 100V)	<1.0pF	~25V	2.5KA	5KA
SC2E5-4000DL SC2E5-4000D	SOCAY 4000D	4000V±20%	<5400V	<5600V	1 GΩ (at 100V)	<1.0pF	~25V	2.5KA	5KA

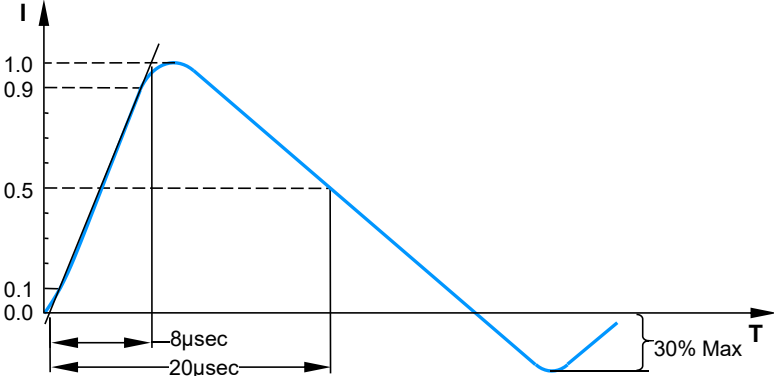
Notes:

- Terms in accordance with ITU-T K.12 and GB/T 9043-2008
- At delivery AQL 0.65 level II, DIN ISO 2859

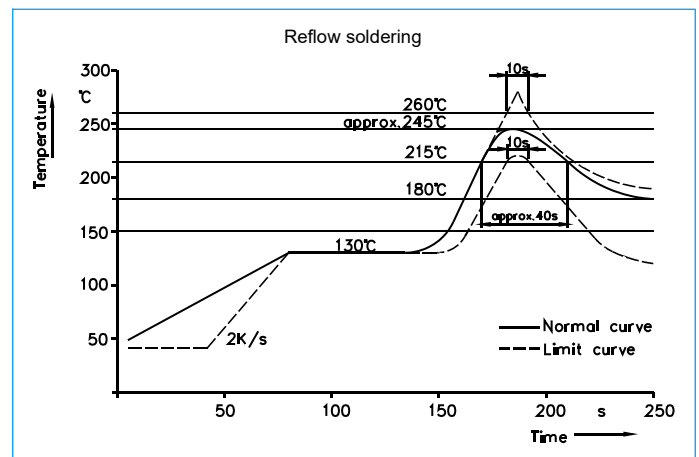
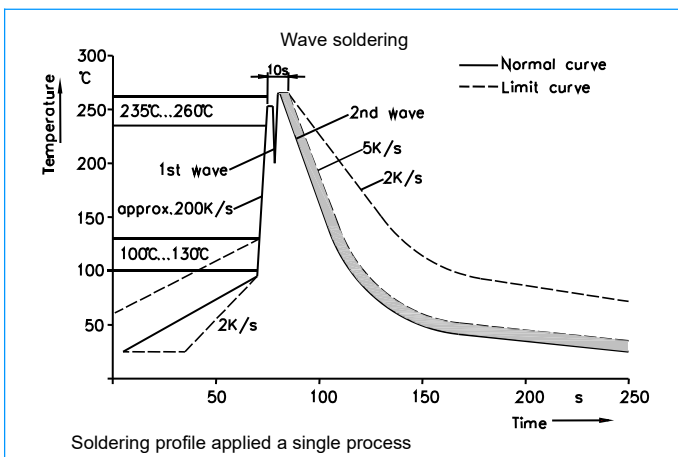
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Electrical Rating

Item	Test Condition / Description	Requirement
DC Spark-over Voltage	The voltage is measured with a slowly rate of rise $dv / dt=100V/s$	To meet the specified value
Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with a rise time of $dv / dt=100V/\mu s$ or $1KV/\mu s$	
Insulation Resistance	The resistance of gas tube shall be measured each terminal each other terminal, please see above spec.	
Capacitance	The capacitance of gas tube shall be measured each terminal to each other terminal. Test frequency :1MHz	
Nominal Impulse Discharge Current	The maximum current applying a waveform of 8/20 μs that can be applied across the terminals of the gas tube. One hour after the test is completed, re-testing of the DC spark-over voltage does not exceed $\pm 30\%$ of the nominal DC spark-over voltage. Dwell time between pulses is 3 minutes. 	

Recommended Soldering Profile



Soldering Parameters - Hand Soldering

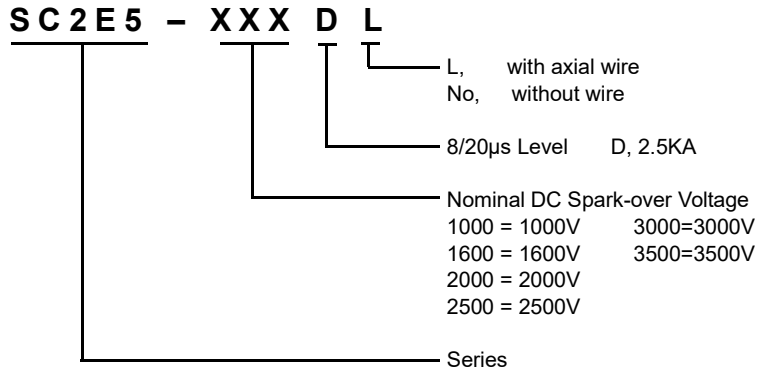
Solder Iron Temperature: 350 $^{\circ}C$ $\pm 5^{\circ}C$

Heating Time: 5 seconds max.

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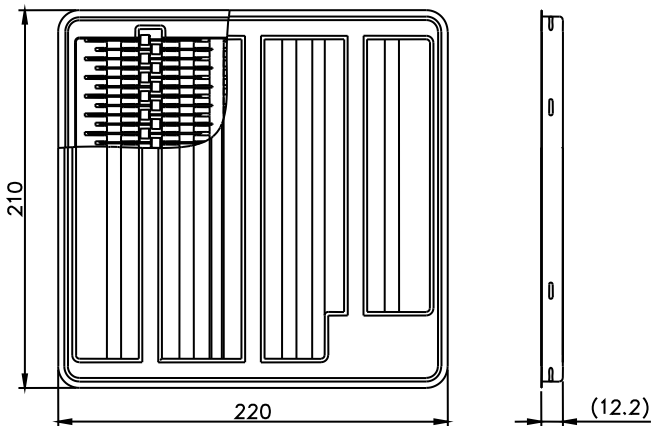
Part Numbering



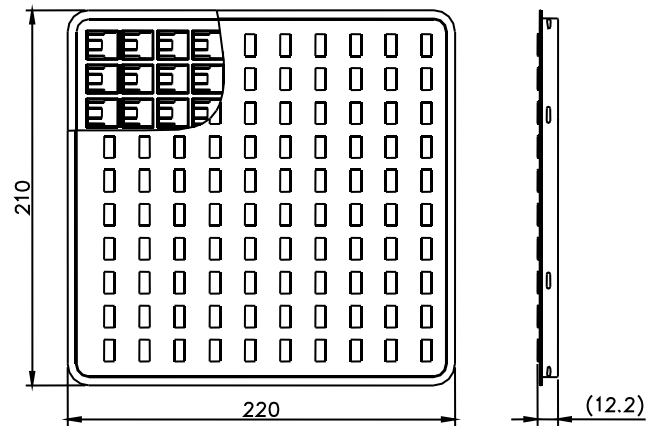
Packaging Information

Part Number	Description	Quantity
SC2E5-XXXDL	100PCS per Tray, 10 Trays / Inner Carton	1000 PCS
SC2E5-XXXD	100PCS per Tray, 10 Trays / Inner Carton	1000 PCS

Tray used in SC2E5-XXXDL



Tray used in SC2E5-XXXD



Cautions and Warnings

- ◆ Gas discharge tubes (GDT) must not be operated directly in power supply networks.
- ◆ Gas discharge tubes (GDT) may become hot in case of longer periods of current stress (danger of burning).
- ◆ Gas discharge tubes (GDT) may be used only within their specified values. In the event of overload, the head contacts may fail or the component may be destroyed.
- ◆ Damaged Gas discharge tubes (GDT) must not be re-used.