

High Voltage 2-Electrode Gas Discharge Tube (GDT)

SC2E8 Series

Description

The high voltage (1.0~6.0KV) 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.

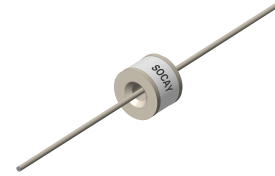
Features

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

Applications

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

SC2E8-XXXLL



SC2E8-XXXL



Schematic Symbol



Product Characteristics

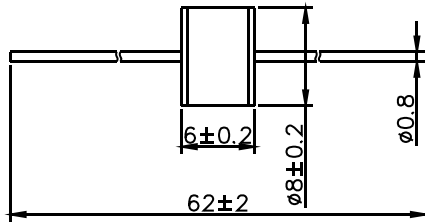
Materials	Nickel-plated with Tinplated wires	
Product Marking	SOCAY XXXXL XXXX -Nominal voltage L -5KA	
Glow to Arc Transition Current	< 0.5 Amps	
Glow Voltage	~180 Volts	
Storage and Operational Temperature	-40 to +90°C	
Weight	SC2E8-XXXLL	~1.5g
	SC2E8-XXXL	~1.35g
Climatic category (IEC 60068-1)	40/ 90/ 21	

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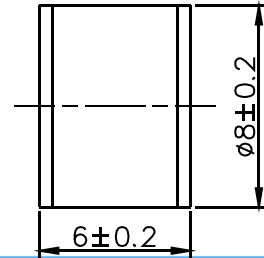
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Dimensions (Unit: mm)

Axial Leaded Devices (SC2E8-XXXLL)



Without wire Devices (SC2E8-XXXL)



Electrical Characteristics

Part Number	Marking	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage		Minimum Insulation Resistance	Maximum Capacitance	Arc Voltage	Service Life	
		@100V/S	@100V/μs	@1KV/μs				Nominal Impulse Discharge Current	Max Impulse Discharge Current
SC2E8-1000LL SC2E8-1000L	SOCAY 1000L	1000V±20%	<1500V	<1600V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-1400LL SC2E8-1400L	SOCAY 1400L	1400V±20%	<2100V	<2200V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-1600LL SC2E8-1600L	SOCAY 1600L	1600V±20%	<2200V	<2400V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-2000LL SC2E8-2000L	SOCAY 2000L	2000V±20%	<3000V	<3500V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-2500LL SC2E8-2500L	SOCAY 2500L	2500V±20%	<3800V	<4000V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-2700LL SC2E8-2700L	SOCAY 2700L	2700V±20%	<3800V	<4000V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-3000LL SC2E8-3000L	SOCAY 3000L	3000V±20%	<4300V	<4500V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-3500LL SC2E8-3500L	SOCAY 3500L	3500V±20%	<4800V	<5000V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-3600LL SC2E8-3600L	SOCAY 3600L	3600V±20%	<4800V	<5000V	1 GΩ (at 100V)	<1.5pF	~25V	5KA	10KA
SC2E8-4000LL SC2E8-4000L	SOCAY 4000L	4000V±20%	<5400V	<5600V	1 GΩ (at 100V)	<1.0pF	~25V	5KA	10KA
SC2E8-4500LL SC2E8-4500L	SOCAY 4500L	4500V±20%	<5800V	<6000V	1 GΩ (at 100V)	<1.0pF	~25V	5KA	10KA
SC2E8-5000LL SC2E8-5000L	SOCAY 5000L	5000V±20%	<6000V	<6500V	1 GΩ (at 100V)	<1.0pF	~25V	5KA	10KA
SC2E8-5500LL SC2E8-5500L	SOCAY 5500L	5500V±20%	<6500V	<7000V	1 GΩ (at 100V)	<1.0pF	~25V	5KA	10KA
SC2E8-6000LL SC2E8-6000L	SOCAY 6000L	6000V±20%	<7500V	<8000V	1 GΩ (at 100V)	<1.0pF	~25V	5KA	10KA

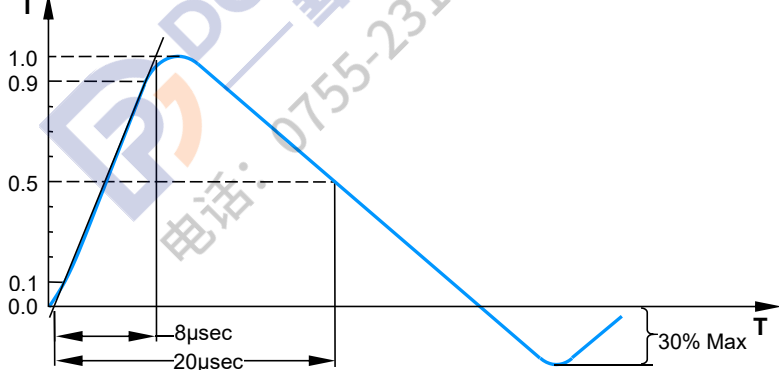
Notes:

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

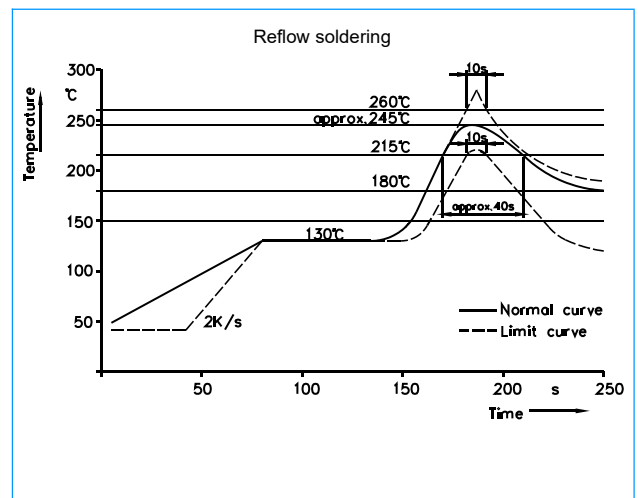
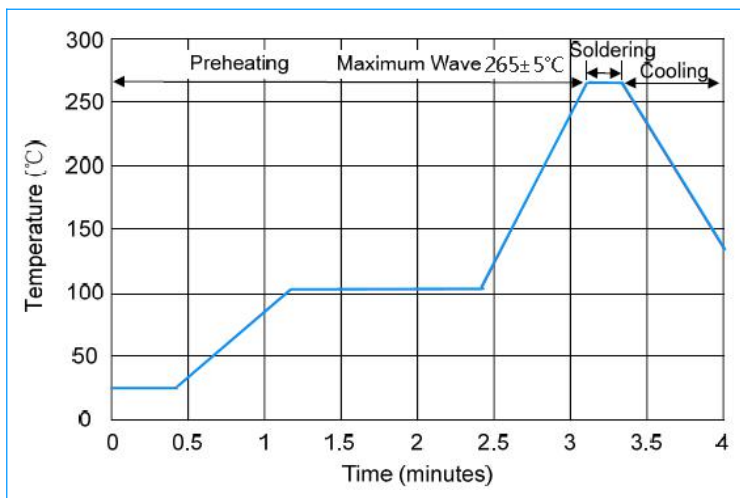
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Electrical Rating

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	<p>The maximum current applying a waveform of 8/20μs 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.</p> 	

Recommended Soldering Profile



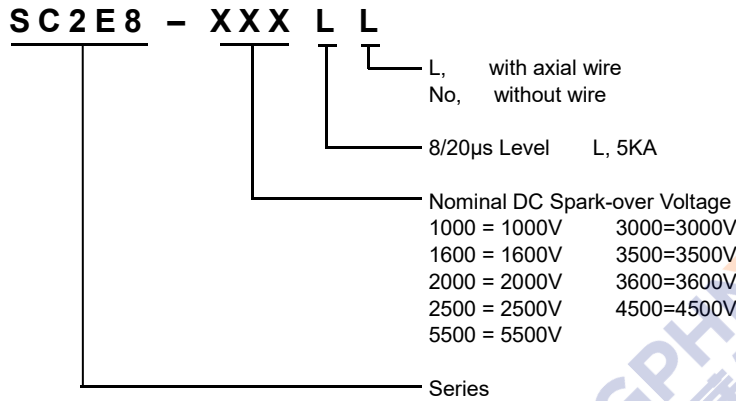
Soldering Parameters - Hand Soldering

Solder Iron Temperature: 350°C $\pm 5^{\circ}C$
Heating Time: 5 seconds max.

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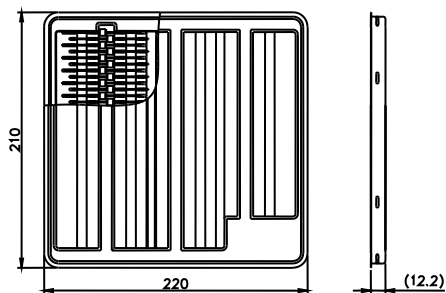
Part Numbering



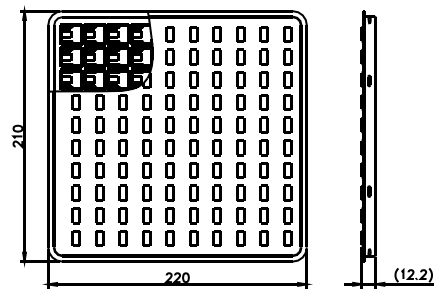
Packaging Information

Part Number	Description	Quantity
SC2E8-XXXLL	100PCS per Tray, 10 Trays / Inner Carton	1000 PCS
	300PCS per box	300PCS
SC2E8-XXXL	100PCS per Tray, 10 Trays / Inner Carton	1000 PCS

Tray used in SC2E8-XXXLL



Tray used in SC2E8

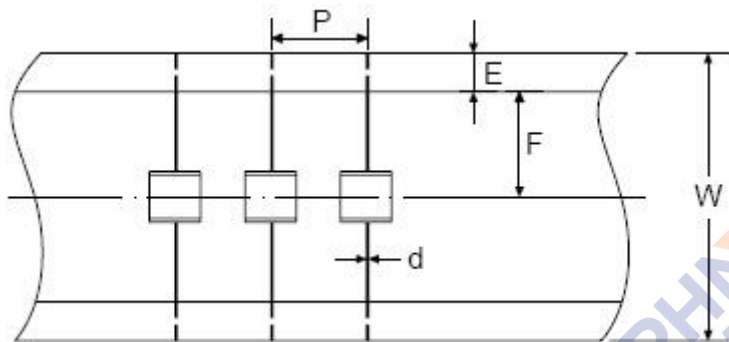


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Packaging Information

Tape (Axial Packing)



Symbol	Dimension (mm)	
	Spec.	Tolerance
P	10.0	±0.5
W	62.0	±0.5
E	6.0	±0.5
F	25.5	±0.5
d	0.8	±0.1

Cautions and Warnings

- ◆ 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.