

High Voltage 2-Electrode Gas Discharge Tube (GDT)

QX2E5 Series

Description

The high voltage (1.0- 3.6KV) 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.

Agency Approvals

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

Applications

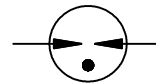
- u CRT terminals
- u CATV equipment
- u Antennas
- u Power supplies
- u Medical electronics

QX2E5-XXXLL

QX2E5-XXXL



Schematic Symbol



Product Characteristics

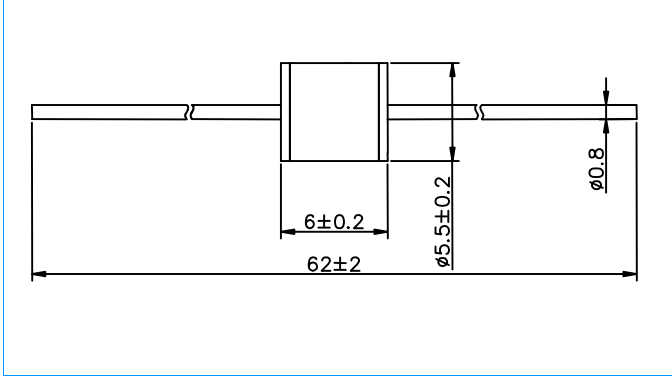
Materials	Nickel-plated with Tinplated wires	
Product Marking	XXXX -Nominal voltage D -2.5KA	
Glow to Arc Transition Current	< 0.5Amps	
Glow Voltage	~180 Volts	
Storage and Operational Temperature	-40 to +90°C	
Weight	QX2E5-XXXLL	~1.0g
	QX2E5-XXXL	~0.85g

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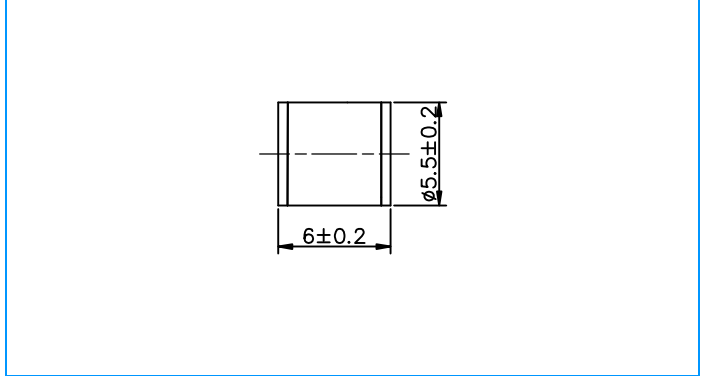
QX2E5 Serie

Dimensions (Unit:mm)

Axial Leaded Devices (QX2E5-XXXLL)



Without wire Devices (QX2E5-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/μs	@1KV/μs				Nominal Impulse Discharge Current	Max Impulse Discharge Current
			@100V/S	@1KV/μs				@8/20μs ±5 times	@8/20μs 1 time
QX2E5-1000LL QX2E5-1000L	1000L	1000V±20%	1500V	1600V	1 GΩ (at 100V)	1.0pF	~25V	2.5KA	5KA
QX2E5-1600LL QX2E5-1600L	1600L	1600V±20%	2200V	2400V	1 GΩ (at 100V)	1.0pF	~25V	2.5KA	5KA
QX2E5-2000LL QX2E5-2000L	2000L	2000V±20%	3000V	3500V	1 GΩ (at 100V)	1.0pF	~25V	2.5KA	5KA
QX2E5-2500LL QX2E5-2500L	2500L	2500V±20%	3800V	4000V	1 GΩ (at 100V)	1.0pF	~25V	2.5KA	5KA
QX2E5-2700LL QX2E5-2700L	2700L	2700V±20%	3800V	4000V	1 GΩ (at 100V)	1.0pF	~25V	2.5KA	5KA
QX2E5-3000LL QX2E5-3000L	3000L	3000V±20%	4300V	4500V	1 GΩ (at 100V)	1.0pF	~25V	2.5KA	5KA
QX2E5-3500LL QX2E5-3500L	3500L	3500V±20%	4800V	5000V	1 GΩ (at 100V)	1.0pF	~25V	2.5KA	5KA
QX2E5-3600LL QX2E5-3600L	3600L	3600V±20%	4800V	5000V	1 GΩ (at 100V)	1.0pF	~25V	2.5KA	5KA

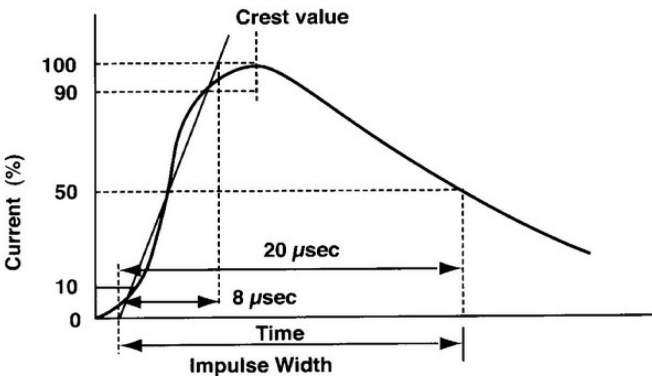
Notes:

- 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

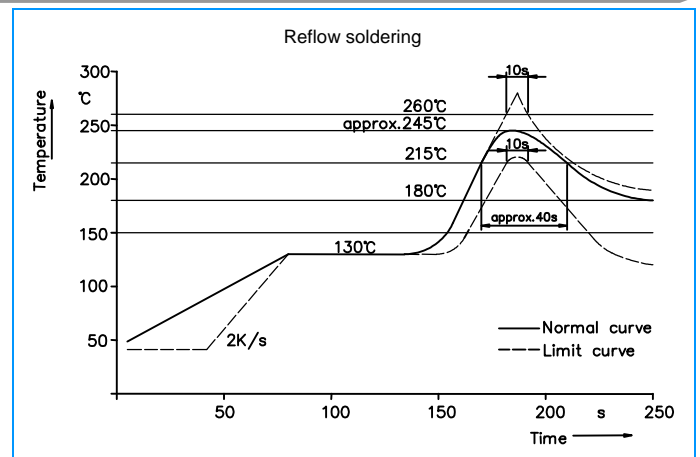
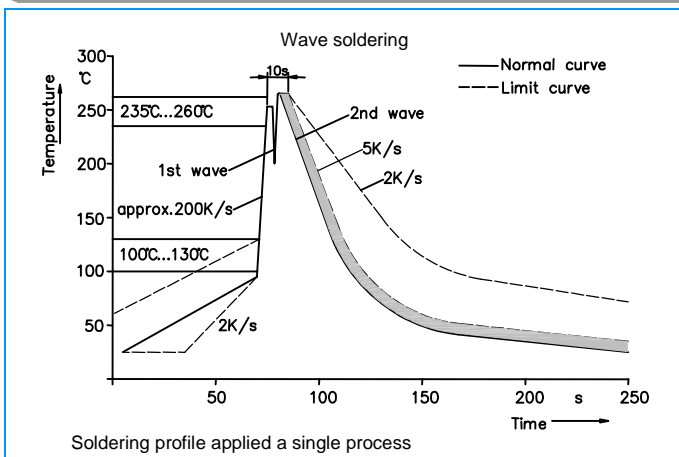
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Electrical Rating

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	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

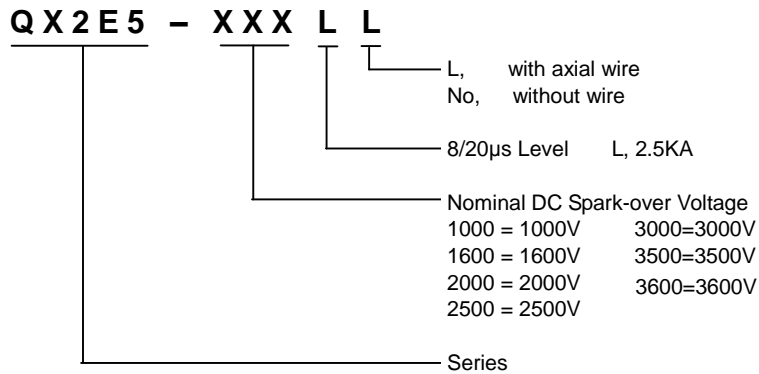
Solder Iron Temperature: 350 $^{\circ}C$ $\pm 5^{\circ}C$

Heating Time: 5 seconds max.

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Part Numbering



Packaging Information Unit:mm

Part Number	Description	Quantity
QX2E5-XXXLL	1000PCS per Tape & Reel	1000
QX2E5-XXXL	100PCS per Tray, 10 Trays / Inner Carton	1000

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.