

High Voltage 2-Electrode Gas Discharge Tube (GDT)

QX2E8/ QX2H8 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.

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

QX2E8-XXXLL



QX2H8-XXXLL



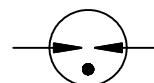
QX2E8-XXXL



QX2H8-XXXL



Schematic Symbol



Product Characteristics

Materials	Nickel-plated with Tinplated wires	
Product Marking	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	QX2E8-XXXLL	~1.5g
	QX2E8-XXXL	~1.35g
	QX2H8-XXXLL	~1.6g
	QX2H8-XXXL	~1.45g

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Dimensions (Unit:mm)

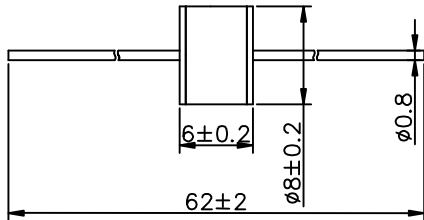


Figure 1

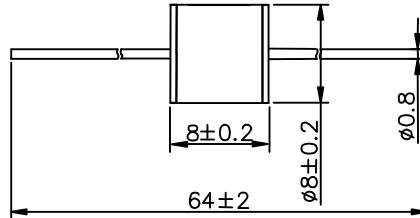


Figure 2

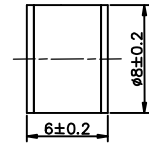


Figure 3

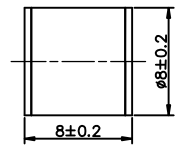


Figure 4

Electrical Characteriseics

Part Number	Figure	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
QX2E8-1000LL	1	1000L	1000V±20%	1500V	1600V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA
QX2E8-1000L	3									
QX2E8-1600LL	1	1600L	1600V±20%	2200V	2400V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA
QX2E8-1600L	3									
QX2E8-2000LL	1	2000L	2000V±20%	3000V	3500V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA
QX2E8-2000L	3									
QX2E8-2500LL	1	2500L	2500V±20%	3800V	4000V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA
QX2E8-2500L	3									
QX2E8-2700LL	1	2700L	2700V±20%	3800V	4000V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA
QX2E8-2700L	3									
QX2E8-3000LL	1	3000L	3000V±20%	4300V	4500V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA
QX2E8-3000L	3									
QX2E8-3600LL	1	3600L	3600V±20%	4800V	5000V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA
QX2E8-3600L	3									
QX2H8-4000LL	2	4000L	4000V±20%	5400V	5600V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA
QX2H8-4000L	4									
QX2H8-4500LL	2	4500L	4500V±20%	5800V	6000V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA
QX2H8-4500L	4									
QX2H8-5000LL	2	5000L	5000V±20%	6000V	6500V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA
QX2H8-5000L	4									
QX2H8-5500LL	2	5500L	5500V±20%	6500V	7000V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA
QX2H8-5500L	4									
QX2H8-6000LL	2	6000L	6000V±20%	7500V	8000V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA
QX2H8-6000L	4									

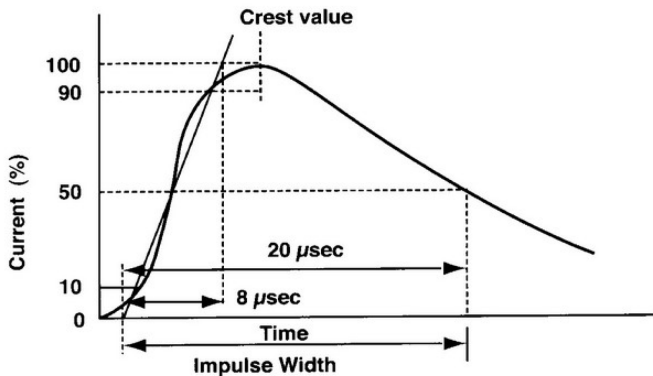
Notes:

- 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

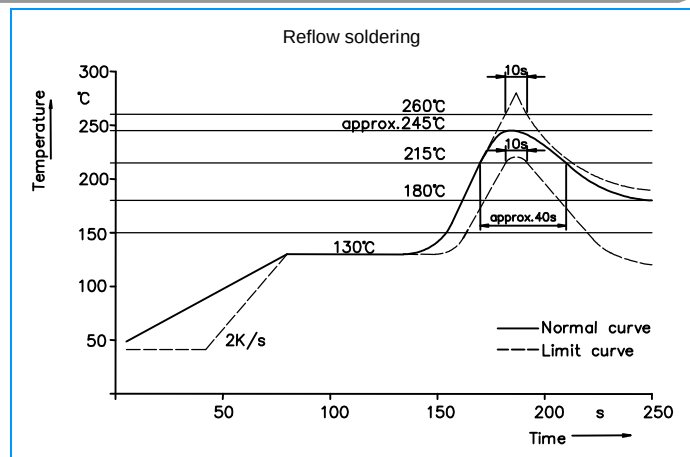
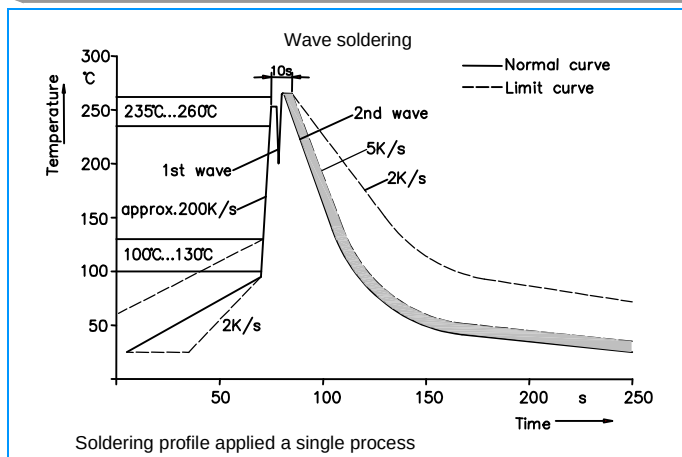
High Voltage 2-Electrode Gas Discharge Tube (GDT)

QX2EB/UN2H8 Series

Dimensions (Unit:mm)

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 8/20μs 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. 	

Recommended soldering profile



Soldering Parameters-Hang Soldering

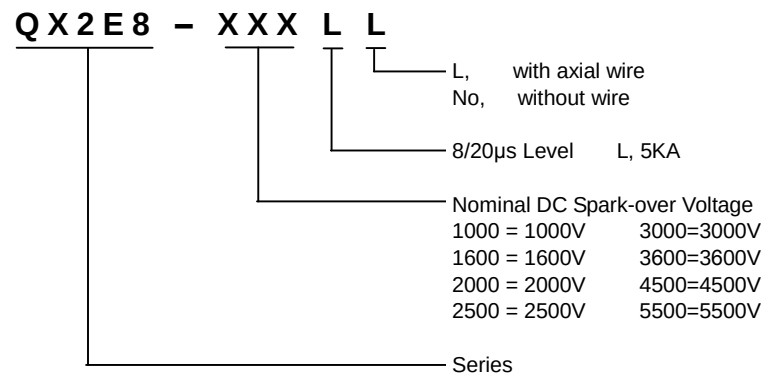
Solder Iron Temperature: 350°C $\pm 5^{\circ}C$

Heating Time: 5 seconds max.

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Part Numbering



Packaging Information Unit:mm

Part Number	Description	Quantity
QX2E8-XXXLL	800PCS per Tape & Reel	800
QX2H8-XXXLL	800PCS per Tape & Reel	800
QX2E8-XXXL	100PCS per Tray, 10 Trays / Inner Carton	1000
QX2H8-XXXL	100PCS per Tray, 10 Trays / Inner Carton	1000

- u Gas discharge tubes (GDT) may become hot in case of longer periods of current stress (danger of burning).
- u 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.
- u Damaged Gas discharge tubes (GDT) must not be re-used.