

## High Voltage 2-Electrode Gas Discharge Tube (GDT)

### UN2E8 / UN2H8 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.

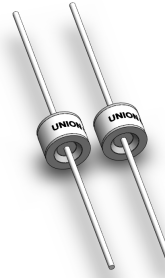
#### Agency Approvals

- 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 8/20 $\mu$ s pulse as defined by IEC 61000-4-5

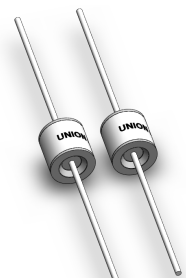
#### Applications

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

UN2E8-XXXLL



UN2H8-XXXLL



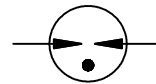
UN2E8-XXXL



UN2H8-XXXL



#### Schematic Symbol



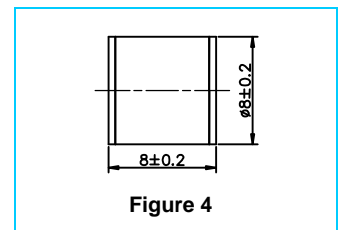
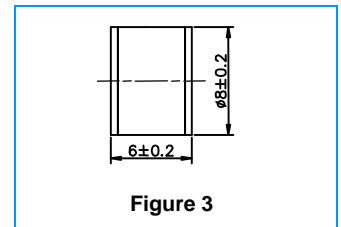
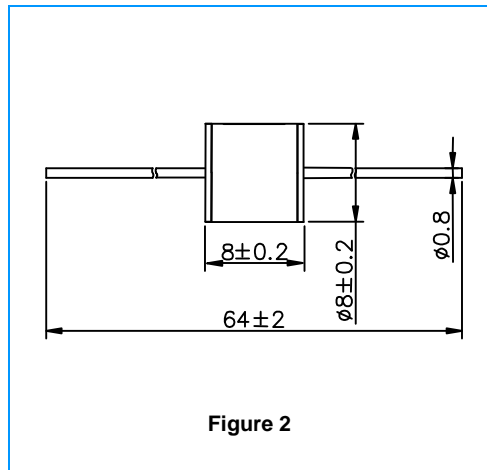
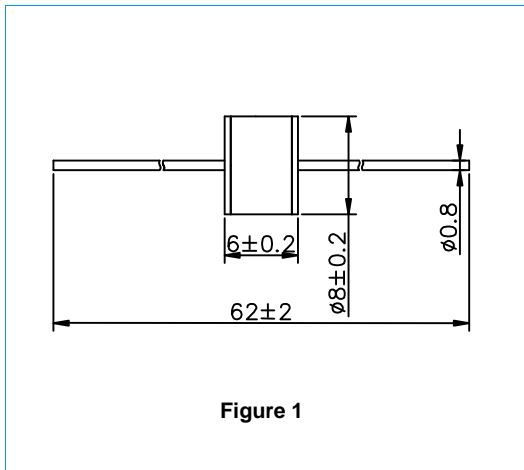
#### Product Characteristics

<b>Materials</b>	Nickel-plated with Tinplated wires	
<b>Product Marking</b>	<b>UNION XXXXL</b> XXXX -Nominal voltage L -5KA	
<b>Glow to Arc Transition Current</b>	< 0.5 Amps	
<b>Glow Voltage</b>	~180 Volts	
<b>Storage and Operational Temperature</b>	-40 to +90°C	
<b>Weight</b>	UN2E8-XXXLL	~1.5g
	UN2E8-XXXL	~1.35g
	UN2H8-XXXLL	~1.6g
	UN2H8-XXXL	~1.45g

# High Voltage 2-Electrode Gas Discharge Tube (GDT)

## UN2E8 / UN2H8 Series

### Dimensions (Unit: mm)



### Electrical Characteristics

Part Number	Figure	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	@100V/μs	@1KV/μs			@1MHz	@1A	@8/20μs ±5 times	@8/20μs 1 time
UN2E8-1000LL	1	1000L	1000V±20%	1500V	1600V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA	
UN2E8-1000L	3										
UN2E8-1600LL	1	1600L	1600V±20%	2200V	2400V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA	
UN2E8-1600L	3										
UN2E8-2000LL	1	2000L	2000V±20%	3000V	3500V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA	
UN2E8-2000L	3										
UN2E8-2500LL	1	2500L	2500V±20%	3800V	4000V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA	
UN2E8-2500L	3										
UN2E8-2700LL	1	2700L	2700V±20%	3800V	4000V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA	
UN2E8-2700L	3										
UN2E8-3000LL	1	3000L	3000V±20%	4300V	4500V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA	
UN2E8-3000L	3										
UN2E8-3500LL	1	3500L	3500V±20%	4800V	5000V	1 GΩ (at 100V)	1.5pF	~25V	5KA	10KA	
UN2E8-3500L	3										
UN2H8-4000LL	2	4000L	4000V±20%	5400V	5600V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA	
UN2H8-4000L	4										
UN2H8-4500LL	2	4500L	4500V±20%	5800V	6000V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA	
UN2H8-4500L	4										
UN2H8-5000LL	2	5000L	5000V±20%	6000V	6500V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA	
UN2H8-5000L	4										
UN2H8-5500LL	2	5500L	5500V±20%	6500V	7000V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA	
UN2H8-5500L	4										
UN2H8-6000LL	2	6000L	6000V±20%	7500V	8000V	1 GΩ (at 100V)	1.0pF	~25V	5KA	10KA	
UN2H8-6000L	4										

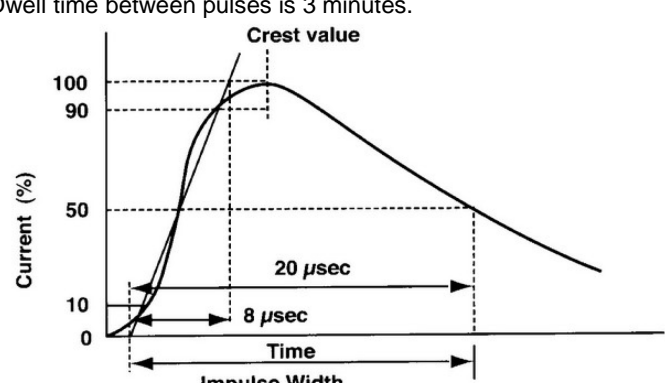
**Notes:**

- 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

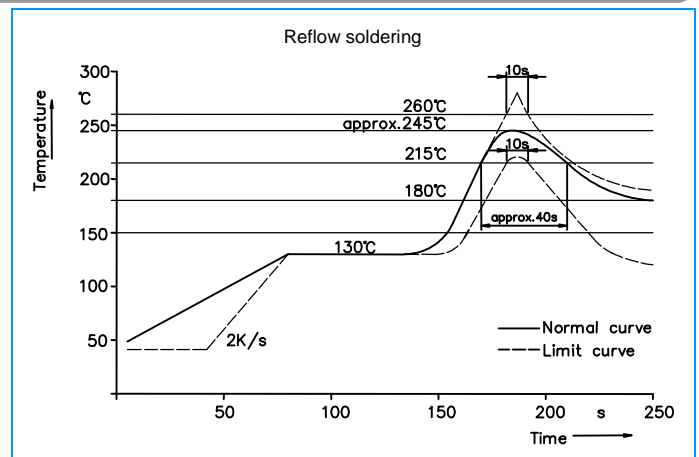
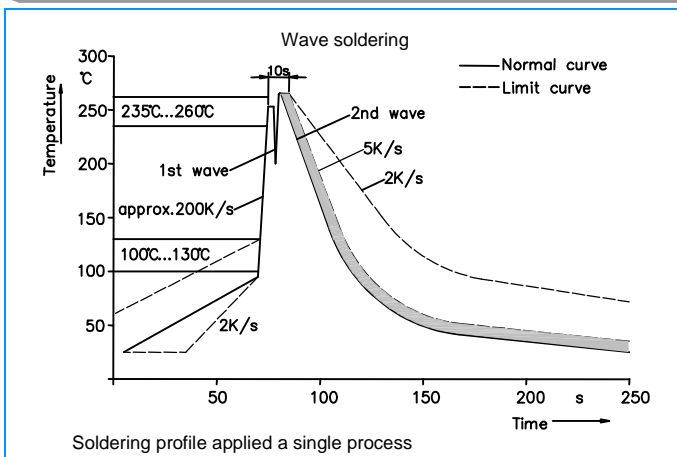
# High Voltage 2-Electrode Gas Discharge Tube (GDT)

## UN2E8 / UN2H8 Series

### Electrical Rating

Item	Test Condition / Description	Requirement
<b>DC Spark-over Voltage</b>	The voltage is measured with a slowly rate of rise $dv / dt=100V/s$	To meet the specified value
<b>Impulse Spark-over Voltage</b>	The maximum impulse spark-over voltage is measured with a rise time of $dv / dt=100V/\mu s$ or $1KV/\mu s$	
<b>Insulation Resistance</b>	The resistance of gas tube shall be measured each terminal each other terminal, please see above spec.	
<b>Capacitance</b>	The capacitance of gas tube shall be measured each terminal to each other terminal. Test frequency :1MHz	
<b>Nominal Impulse Discharge Current</b>	The maximum current applying a waveform of 8/20 $\mu s$ 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

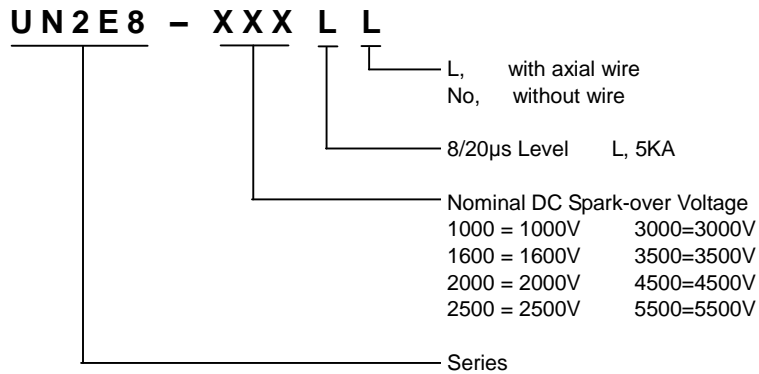
Solder Iron Temperature: 350°C  $\pm 5^\circ C$

Heating Time: 5 seconds max.

# High Voltage 2-Electrode Gas Discharge Tube (GDT)

## UN2E8 / UN2H8 Series

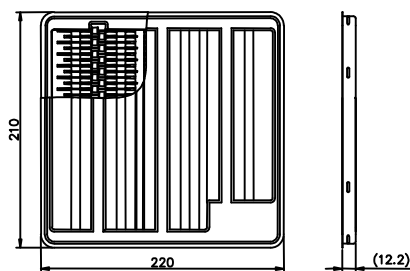
### Part Numbering



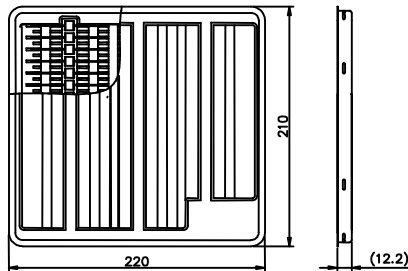
### Packaging Information Unit: mm

Part Number	Description	Quantity
UN2E8-XXXLL	100PCS per Tray, 10 Trays / Inner Carton	1000
UN2H8-XXXLL	50PCS per Tray, 10 Trays / Inner Carton	500
UN2E8-XXXL	100PCS per Tray, 10 Trays / Inner Carton	1000
UN2H8-XXXL	100PCS per Tray, 10 Trays / Inner Carton	1000

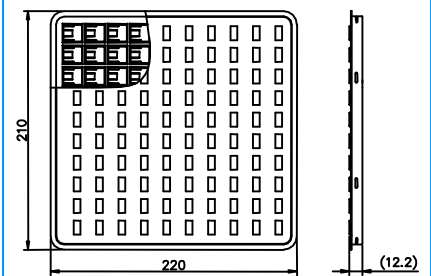
Tray used in UN2E8-XXXLL



Tray used in UN2H8-XXXLL



Tray used in UN2E8 / 2H8-XXXL



### 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.