UN2E5 Series

ROHS

Single Gas Discharge Tube

Description

Gas discharge Tubes (GDT) are classical components for protecting the installations of the telecommunications. It is essential that IT and telecommunications systems -with their high-grade but sensitive electronic circuits - be protected by arresters. They are thus fitted at the input of the power supply system together with varistors and at the connection points to telecommunication lines. They have become equally indispensable for protecting base stations in mobile telephone systems as well as extensive cable television (CATV) networks with their repeaters and distribution systems.

These protective components are also indispensable in other sectors, In AC power transmission systems, they are often used with current-limiting varistors, In customer premises equipment such as DSL modems, WLAN routers, TV sets and cable modems In air-conditioning equipment, the integral black-box concept offers graduated protection by combining arresters with varistors, PTC, diodes and inductor

Features

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

Applications

- Communication equipment
- CATV equipment
- Test equipment
- Data lines
- Power suplies
- Telecom SLIC proteclion
- Broadband equipment
- ADSL equipment, including ADSL2+
- XDSL equipment
- Satlite and CATV equipment
- Consumer electronics

www.unsemi.com.tw

UN2E5-XXXLL

UN2E5-XXXL

Schematic Symbol

Agency Approvals

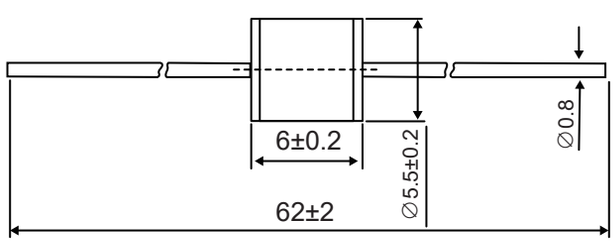
AGENCY	AGENCY FIL ENUMBER
®	E466847

Product Characteristics

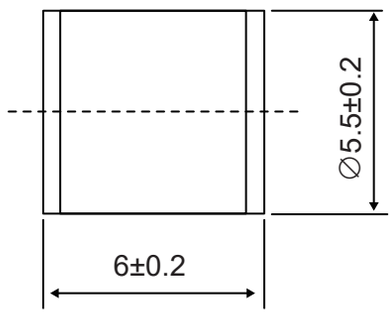
Materials	Nickel-plated with Tinplated wires	
Product Marking	XXX -Nominal voltage L -5KA	
Glow to Arc Transition Current	< 0.5 Amps	
Glow Voltage	~60 Volts	
Storage and Operational Temperature	-40 to +90°C	
Weight	UN2E5-XXXLL	~1.0g
	UN2E5-XXXL	~0.85g

Dimensions (Unit: mm)

Axial Leaded Devices (UN2E5-XXXLL)



Without wire Devices (UN2E5-XXXL)

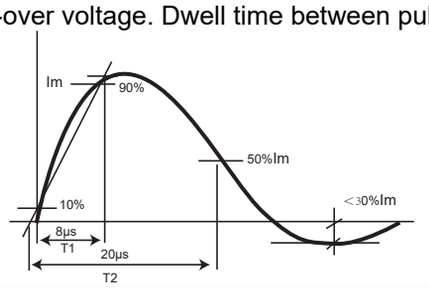


Electrical Characteristics

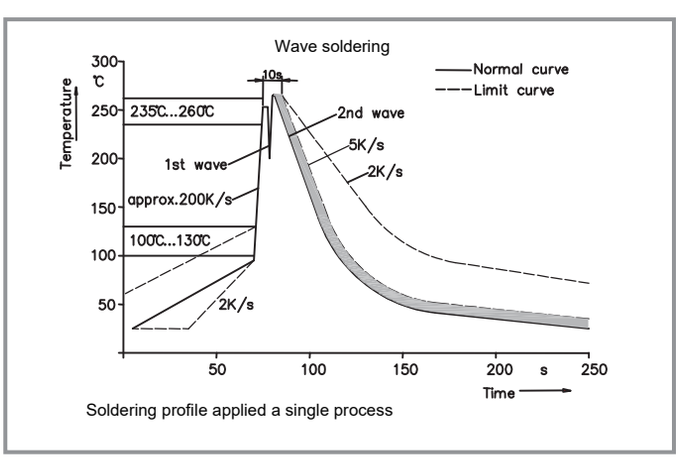
Part Number	Marking	DC Spark-over Voltage	Typical Impulse Spark- over Voltage		Minimum Insulation Resistance	Maximum Capacitance	Arc Voltage	Service Life			
								Nominal Impulse Dis charge Current	Max Impulse Discharge Current	Nominal Alternating Discharge Current	Impulse Life
		@100V/S	@100V/μS	@1KV/μS		@1MHz	@1A	@8/20μS ±5times	@8/20μs 1 time	@50Hz 1 Sec 10 times	@10/1000 μs 300 times
UN2E5-75LL UN2E5-75L	75L	75V±20%	500V	600V	1 GΩ (at 25V)	1.0pF	~15V	5KA	10KA	5A	100A
UN2E5-90LL UN2E5-90L	90L	90V±20%	500V	600V	1 GΩ (at 50V)	1.0pF	~15V	5KA	10KA	5A	100A
UN2E5-150LL UN2E5-150L	150L	150V±20%	500V	600V	1 GΩ (at 50V)	1.0pF	~20V	5KA	10KA	5A	100A
UN2E5-230LL UN2E5-230L	230L	230V±20%	600V	700V	1 GΩ (at 100V)	1.0pF	~20V	5KA	10KA	5A	100A
UN2E5-250LL UN2E5-250L	250L	250V±20%	700V	800V	1 GΩ (at 100V)	1.0pF	~20V	5KA	10KA	5A	100A
UN2E5-300LL UN2E5-300L	300L	300V±20%	800V	900V	1 GΩ (at 100V)	1.0pF	~20V	5KA	10KA	5A	100A
UN2E5-350LL UN2E5-350L	350L	350V±20%	800V	900V	1 GΩ (at 100V)	1.0pF	~20V	5KA	10KA	5A	100A
UN2E5-400LL UN2E5-400L	400L	400V±20%	900V	1000V	1 GΩ (at 100V)	1.0pF	~20V	5KA	10KA	5A	100A
UN2E5-470LL UN2E5-470L	470L	470V±20%	900V	1000V	1 GΩ (at 100V)	1.0pF	~20V	5KA	10KA	5A	100A
UN2E5-600LL UN2E5-600L	600L	600V±20%	1100V	1200V	1 GΩ (at 100V)	1.0pF	~20V	5KA	10KA	5A	100A
UN2E5-800LL UN2E5-800L	800L	800V±20%	1200V	1400V	1 GΩ (at 100V)	1.0pF	~20V	5KA	10KA	5A	100A

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

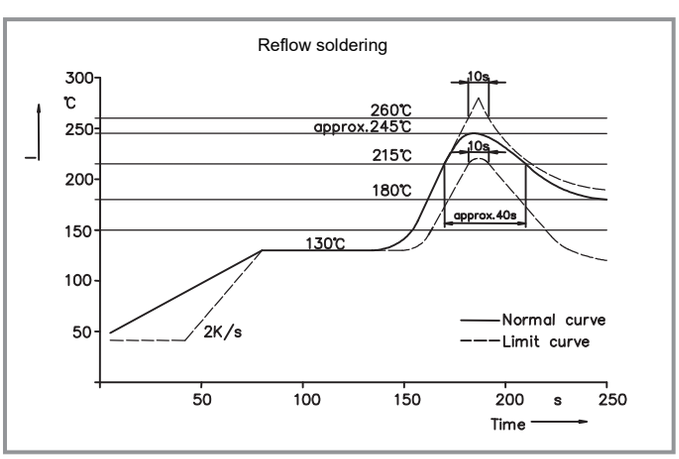
Electrical Rating

Item	Test Condition I 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/μs or 1KV/μs	
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 ±30% of the nominal DC spark-over voltage. Dwell time between pulses is 3 minutes. 	
Nominal Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. 10 times. Intervals: 3min. The DC spark-over voltage does not exceed ±30% of the nominal DC spark-over voltage. $I_R > 10^8$ ohms.	

Recommended soldering profile



Soldering profile applied a single process



Soldering Parameters - Hand Soldering

Solder Iron Temperature: 350°C +/-5°C
Heating Time: 5 seconds max.

Part Numbering

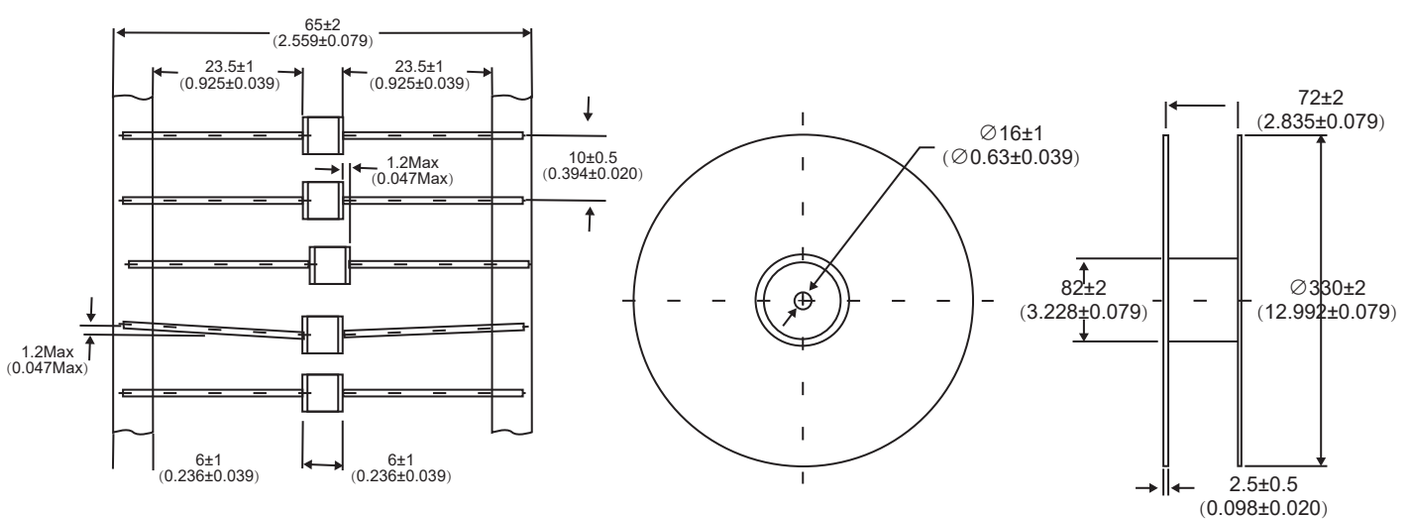
U N 2E5 XXX L L

- L, with axial wire / No, without wire
- 8/20μs Level L, 5KA
- Nominal DC Spark-over Voltage
  - 75 = 75V
  - 90 = 90V
  - 150 = 150V
  - 230 = 230V
  - 350=350V
  - 470=470V
  - 600=600V
  - 800=800V
- Series

Packaging Information (Unit: mm)

Part Number	Description	Quantty
UN2E5-XXXLL	1000PCS per Tape & Reel	1000
UN2E5-XXXL	Tape & Reel -16mm tape/13″Reel	1000

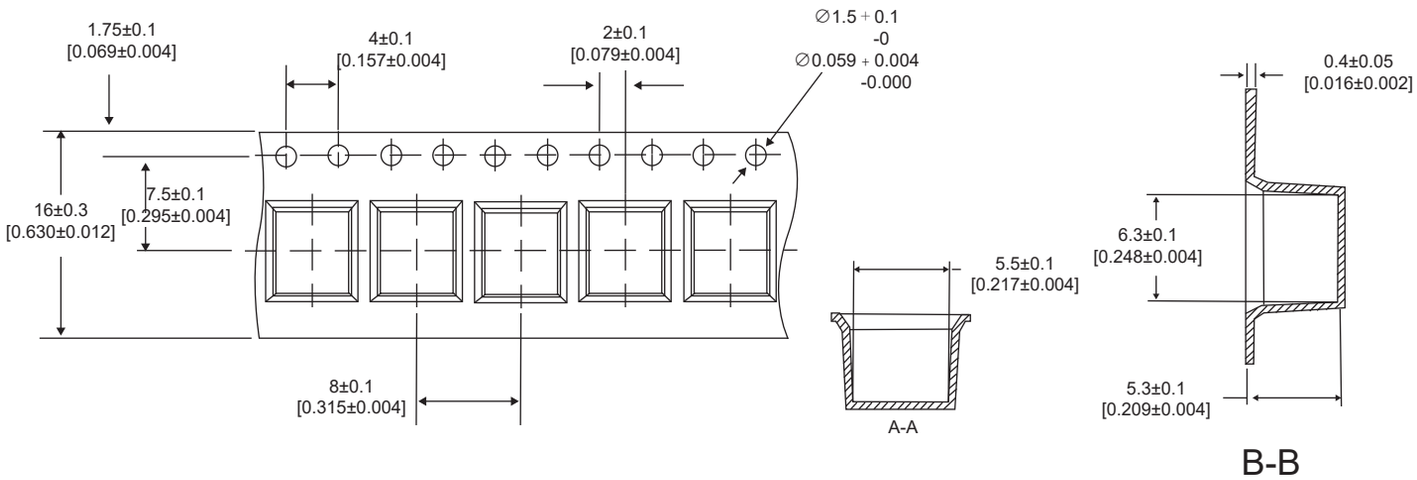
Tray used in UN2E5-XXXLL



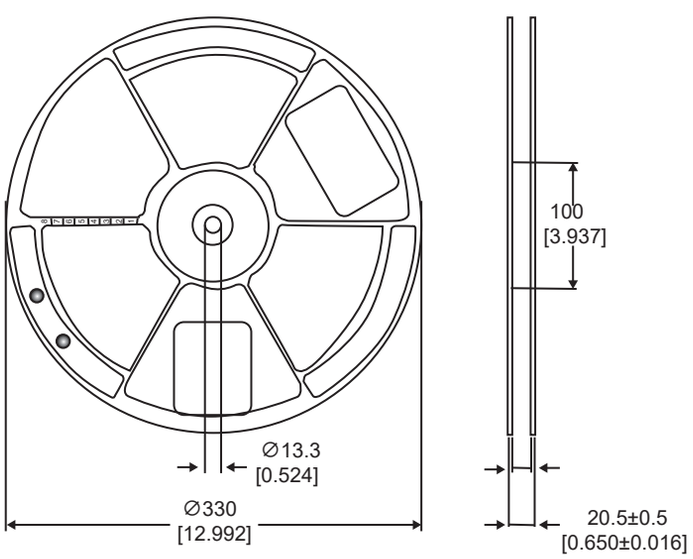
Packaging Information (Unit: mm)

Tray used in UN2E5-XXXL

Tape



Reel



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.

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