

UN2E8 / UN2H8 Series

ROHS

High Voltage Single Gas Discharge Tube

Description

The high voltage (1.0 - 4.5KV) 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

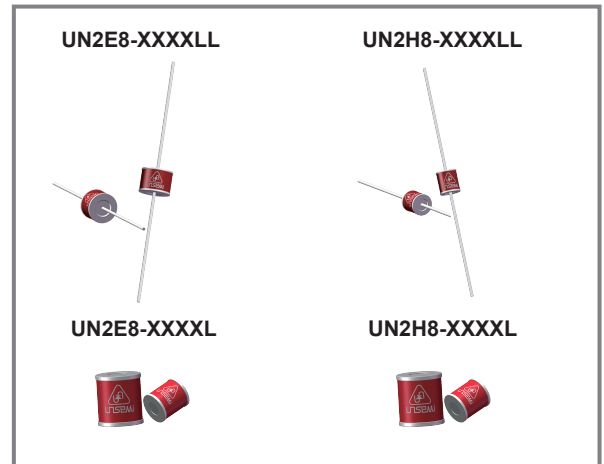
- ◆ Non-Radioactive
- ◆ ROHS compliant
- ◆ Ultra low capacitance
- ◆ Low insertion loss
- ◆ Excellent response to fast rising transients
- ◆ 5KA surge capability tested with 8/20 μ s pulse as defined by IEC 61000-4-5

Applications

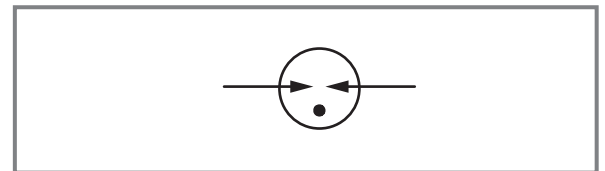
- ◆ CRT terminals
- ◆ CATV equipment
- ◆ Antennas
- ◆ Power supplies
- ◆ Medical electronics



www.unsemi.com.tw



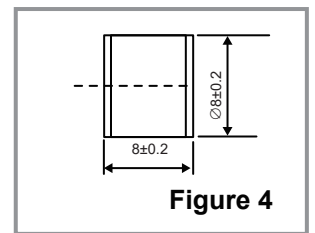
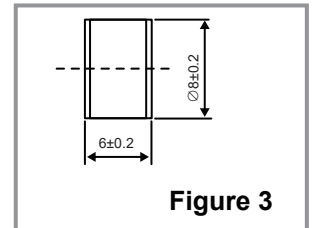
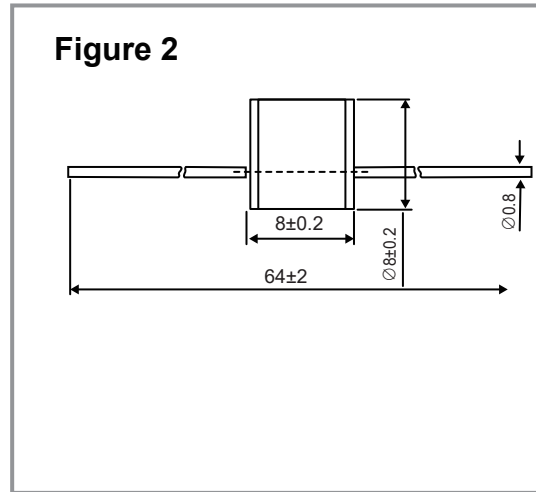
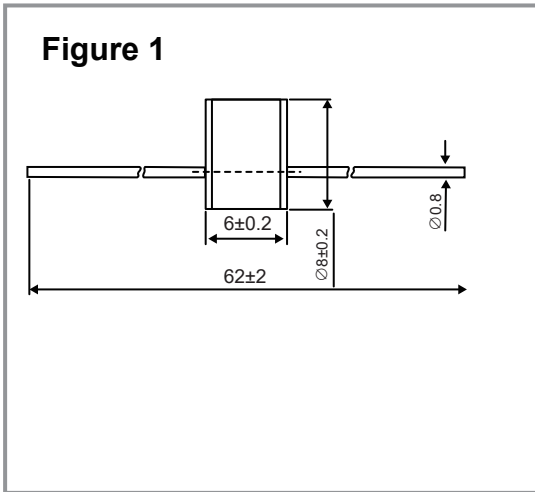
Schematic Symbol



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	UN2E8-XXXXLL	~1.4g
	UN2E8-XXXXL	~1.0g
	UN2H8-XXXXLL	~1.2g
	UN2H8-XXXXL	~1.0g

Dimensions (Unit: mm)



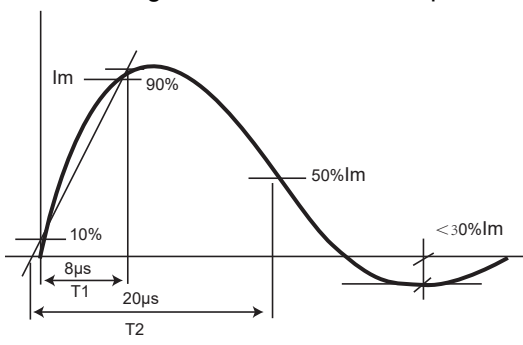
Electrical Characteristics

Part Number	Figure	Marking	DC Spark-over Voltage	Typical Impulse Spark-over Voltage		Minimum Insulation Resistance	Maximum Capacitance	Arc Voltage	Service Life	
				@100V/μS	@100V/μS @1KV/μS				Nominal Impulse Dis charge Current	Max Impulse Discharge Current
UN2E8-1000LL	1	1000L	1000V±20%	1500V	1600V	1GΩ (at 100V)	1.5pF	~25V	5KA	10KA
UN2E8-1000L	3									
UN2E8-1600LL	1	1600L	1600V±20%	2200V	2400V	1GΩ (at 100V)	1.5pF	~25V	5KA	10KA
UN2E8-1600L	3									
UN2E8-2000LL	1	2000L	2000V±20%	3000V	3500V	1GΩ (at 100V)	1.5pF	~25V	5KA	10KA
UN2E8-2000L	3									
UN2E8-2500LL	1	2500L	2500V±20%	3800V	4000V	1GΩ (at 100V)	1.5pF	~25V	5KA	10KA
UN2E8-2500L	3									
UN2E8-2700LL	1	2700L	2700V±20%	3800V	4000V	1GΩ (at 100V)	1.5pF	~25V	5KA	10KA
UN2E8-2700L	3									
UN2E8-3000LL	1	3000L	3000V±20%	4300V	4500V	1GΩ (at 100V)	1.5pF	~25V	5KA	10KA
UN2E8-3000L	3									
UN2E8-3500LL	1	3500L	3500V±20%	4800V	5000V	1GΩ (at 100V)	1.5pF	~25V	5KA	10KA
UN2E8-3500L	3									
UN2H8-4000LL	2	4000L	4000V±20%	5400V	5600V	1GΩ (at 100V)	1.0pF	~25V	5KA	10KA
UN2H8-4000L	4									
UN2H8-4500LL	2	4500L	4500V±20%	5800V	6000V	1GΩ (at 100V)	1.0pF	~25V	5KA	10KA
UN2H8-4500L	4									

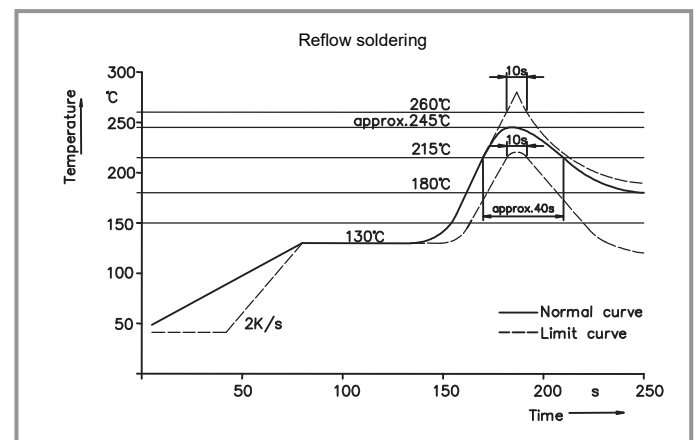
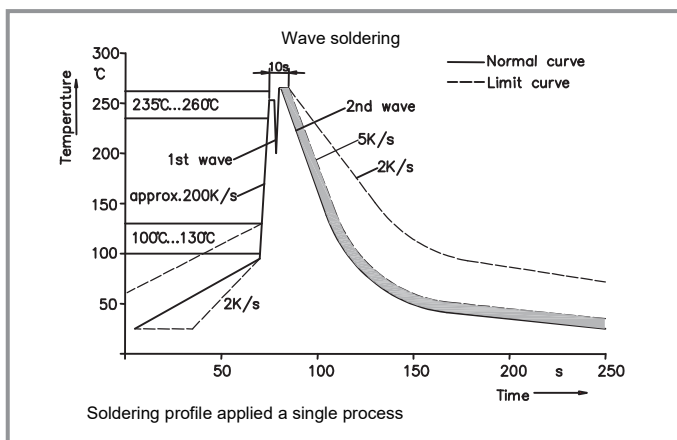
Notes:

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

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. 	

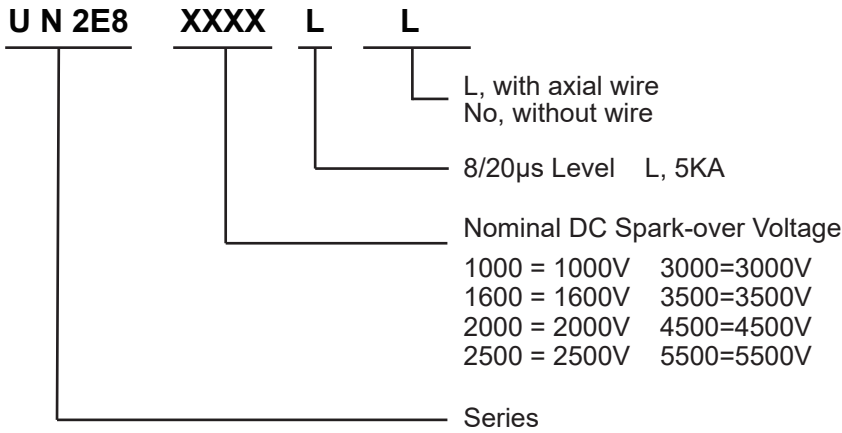
Recommended soldering profile



Soldering Parameters - Hand Soldering

Solder Iron Temperature: 350 $^{\circ}C$ +/-5 $^{\circ}C$
Heating Time: 5 seconds max.

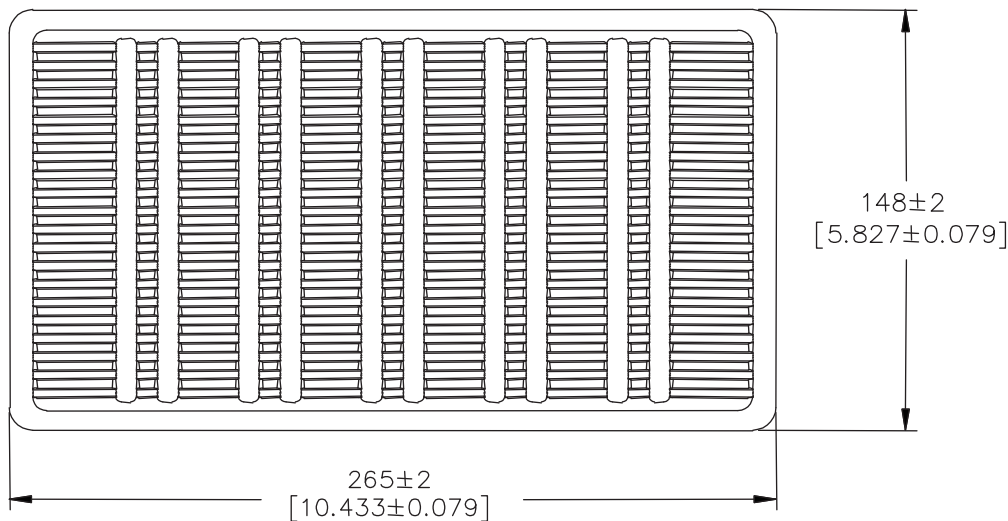
Part Numbering



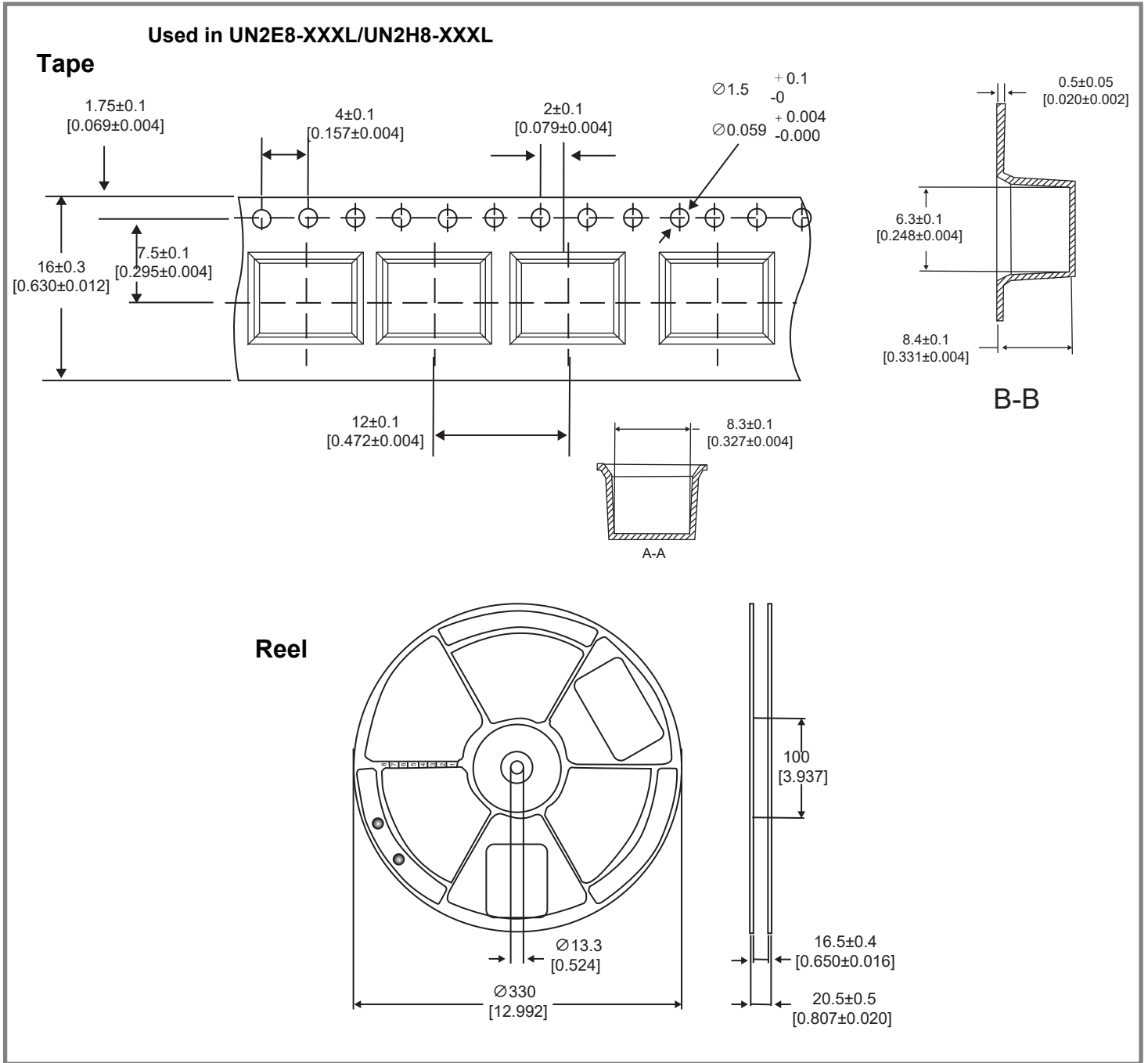
Packaging Information (Unit: mm)

Part Number	Description	Quantity
UN2E8-XXXXLL	800PCS per Tape & Reel	800
UN2H8-XXXXLL	100PCS per Tray, 5 Trays / Inner Carton	500
UN2E8-XXXXL	Tape & Reel -16mm tape/13"Reel	500
UN2H8-XXXXL	Tape & Reel -16mm tape/13"Reel	500

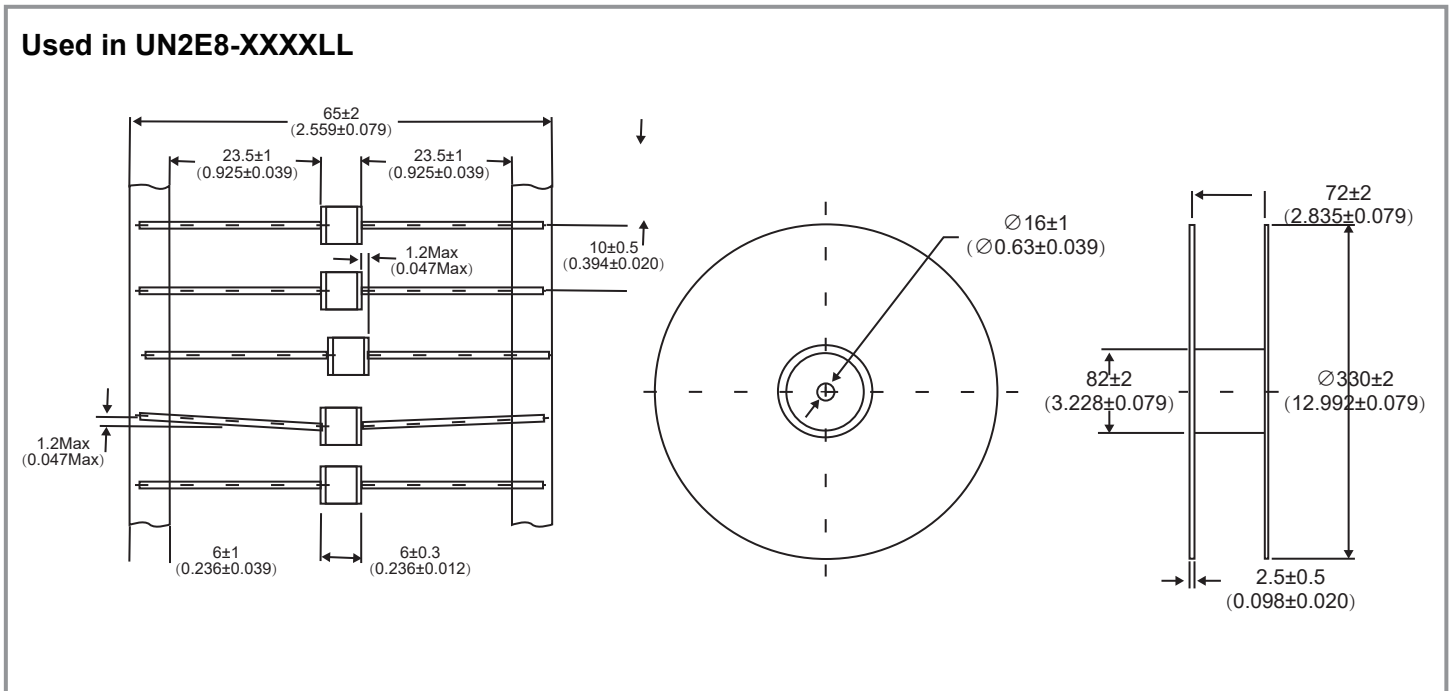
Tray used in UN2H8-XXXXLL



Tape and Reel Dimensions (Unit: mm)



Tape and Reel Dimensions (Unit: mm)



- ◆ 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.

Disclaimer

UNSEMI RESERVES THE RIGHT TO MAKE CHANGE ON OUR PRODUCTS , PRODUCTS SPECIFICATION AND DATA WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

UN SEMICONDUCTOR LIMITED its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "UNSEMI") does not give any representations or warranties for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

In no event shall UNSEMI be liable for any indirect, incidental, punitive, special or consequential damages (including any and all implied warranties, warranties of fitness for particular purpose, non-infringement and merchantability.) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Statements regarding the suitability of products for certain types of applications are based on UNSEMI knowledge of typical requirements that are often placed on UNSEMI products in generic applications. Such statements are not binding, statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify UNSEMI's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Unless otherwise agreed in writing, UNSEMI product is not designed, authorized or warranted to be suitable for use in medical life-saving, or life-sustaining application , nor in applications where failure or malfunction of a UNSEMI product can reasonably be expected to result in personal injury, death or severe property or environmental damage. UNSEMI and its suppliers accept no liability for inclusion or use of UNSEMI products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

All referenced brands, product names, service names and trademarks are the property of their respective owners.