

# CG8 Series

## Gas Discharge Tubes



### Description

Littelfuse CG8 two-electrode high-voltage (2.5–4.5 kV) 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

- Rugged Ceramic-metal construction
- Voltage Range 2500–4500 V
- 3 kA 8/20  $\mu$ s surge capability
- Low capacitance (<1.0 pF)
- Available in T&R packaging
- Available with leads
- RoHS compliant and lead-free

### Web Resources



Download ECAD models, order samples, and find technical resources at [www.littelfuse.com](http://www.littelfuse.com)

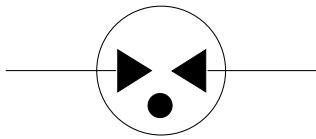
### Agency Approvals

Agency	Agency File Number
	E320116

### Applications

- Antenna circuit
- Power supplies
- CATV equipment
- Air conditioning
- Test equipment
- Set-top box
- Renewable energy

### Two Electrode GDT Graphical Symbol



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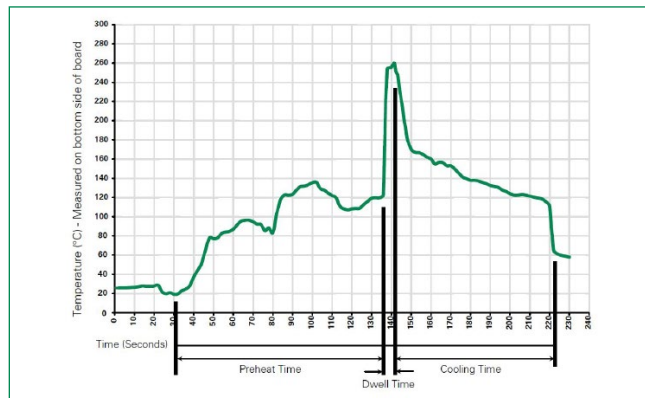
### Electrical Characteristics

Part Number	Device Specifications (at 25 °C)					Service Life		
	DC Breakdown in Volts (@100V/s)	Impulse Breakdown in Volts (@100V/μs)	Impulse Breakdown In Volts (@1 kV/μs)	Insulation Resistance	Capacitance (@1MHz)	300 Operations @ 8/20 μs	3 Operations @ 8/20μs	1 Operation @ 8/20μs
CG82.5	2000~3000	3300	3400	>1 GΩ	<1 pF	100 A	3 kA	5 kA
CG83.0	2400~3600	3800	4000	>1 GΩ	<1 pF	100 A	3 kA	5 kA
CG83.6	2880~4320	4350	4500	>1 GΩ	<1 pF	100 A	3 kA	5 kA
CG84.0	3200~4800	5000	5400	>1 GΩ	<1 pF	100 A	3 kA	5 kA
CG84.5	3600~5400	5200	5500	>1 GΩ	<1 pF	100 A	3 kA	5 kA

### Product Characteristics

Item	Test Condition
Operating & Storage Temperature	-40 °C to 125 °C
Product Marking	LF Logo, Voltage and date code; Black ink positive print
Material	Device & Wire: Tin plated 17.5±12.5 Microns

### Soldering Parameters: Wave Soldering (Thru-Hole Devices)



Wave Parameter	Lead-Free Recommendation
<b>Preheat:</b> (Depends on Flex Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum	100 °C
Temperature Maximum	150 °C
Preheat Time	60–180 seconds
<b>Solder Pot Temperature</b>	260 °C Maximum
<b>Solder Dwell Time</b>	2–5 seconds

#### Recommended Hand-Solder Parameters:

Solder Iron Temperature: 350 °C +/- 5 °C

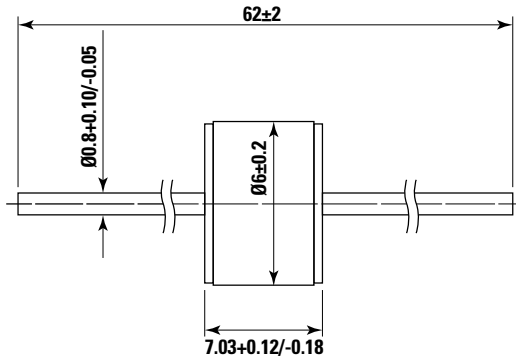
Heating Time: 5 seconds max.

**Note:** These devices are not recommended for IR or Convection Reflow process.

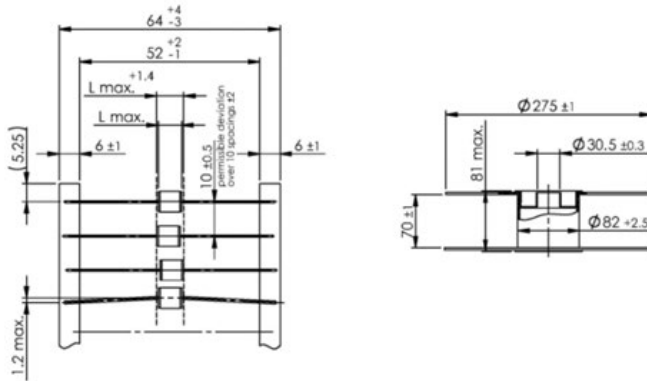
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### Device Dimensions



### Packaging Dimensions



### Part Numbering System and Ordering Information

	CG8	X.X	XXX
Series			
Breakdown Voltage			
		2.5 = 2500 V	
		3.0 = 3000 V	
		3.6 = 3600 V	
		4.0 = 4000 V	
		4.5 = 4500 V	
Lead/Packaging Option Code			
		L = Leaded/Bulk pack, 100 pcs per tray	
		L TR = Leaded/Tape & Reel, 500 pcs per reel	
		(CG83.6LTR and CG84.0LTR, 800pcs per reel)	

**Disclaimer Notice** - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at: [www.littelfuse.com/disclaimer-electronics](http://www.littelfuse.com/disclaimer-electronics).