

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 μ 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

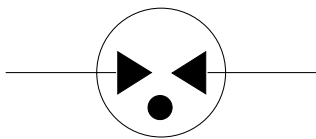
Agency Approvals

| 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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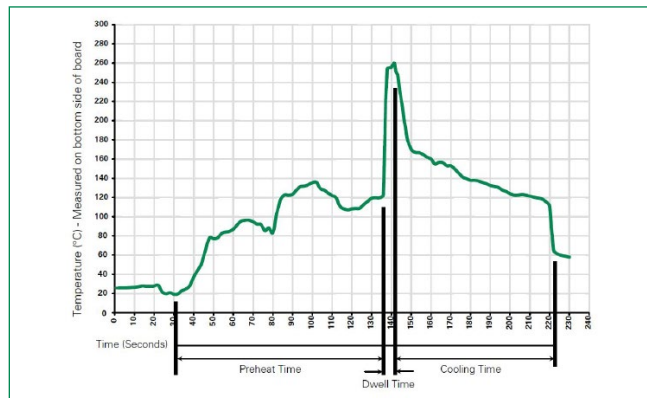
Electrical Characteristics

| Part Number | Device Specifications (at 25 °C) | | | | | Service Life | | |
|-------------|----------------------------------|---------------------------------------------|---------------------------------------------|-----------------------|---------------------|-------------------------------|-----------------------------|----------------------------|
| | DC Breakdown in Volts (@100V/s) | Impulse Breakdown in Volts (@100V/ μ s) | Impulse Breakdown In Volts (@1 kV/ μ s) | Insulation Resistance | Capacitance (@1MHz) | 300 Operations @ 8/20 μ s | 3 Operations @ 8/20 μ s | 1 Operation @ 8/20 μ s |
| CG82.5 | 2000~3000 | 3300 | 3400 | >1 G Ω | <1 pF | 100 A | 3 kA | 5 kA |
| CG83.0 | 2400~3600 | 3800 | 4000 | >1 G Ω | <1 pF | 100 A | 3 kA | 5 kA |
| CG83.6 | 2880~4320 | 4350 | 4500 | >1 G Ω | <1 pF | 100 A | 3 kA | 5 kA |
| CG84.0 | 3200~4800 | 5000 | 5400 | >1 G Ω | <1 pF | 100 A | 3 kA | 5 kA |
| CG84.5 | 3600~5400 | 5200 | 5500 | >1 G Ω | <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 \pm 12.5 Microns |

Soldering Parameters: Wave Soldering (Thru-Hole Devices)



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

Recommended Hand-Solder Parameters:

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

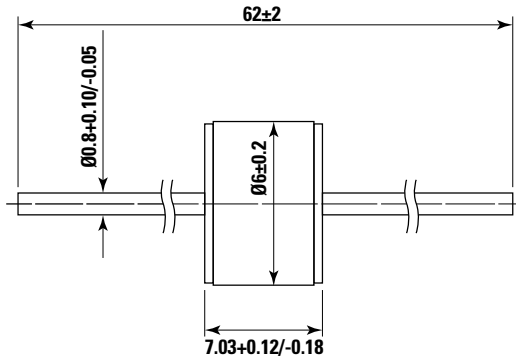
Heating Time: 5 seconds max.

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

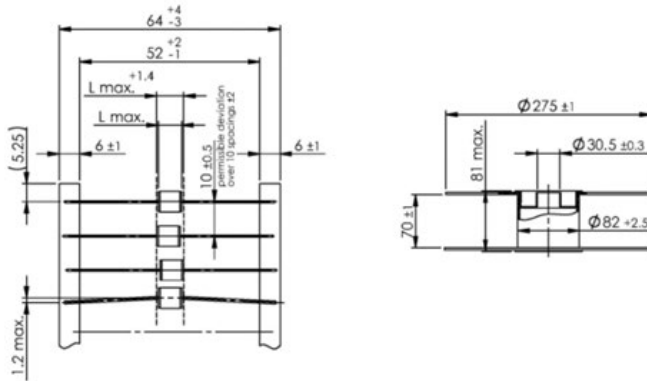
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Device Dimensions



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 | |
| | | LTR = 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.