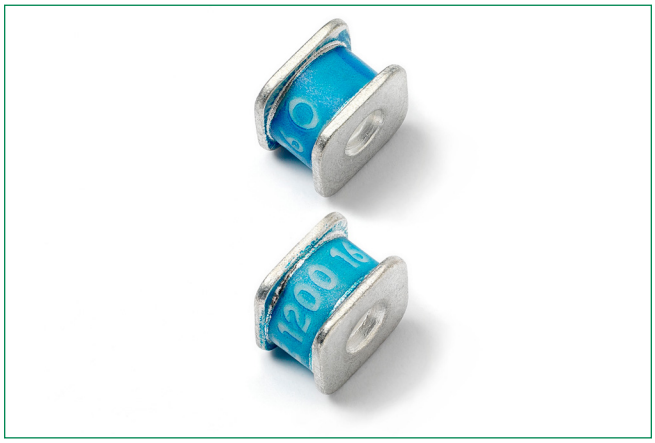
CG4 Series
Gas Discharge Tubes



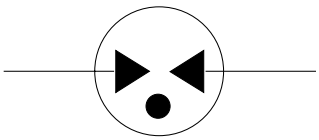
Additional Information

Resources | Accessories | Samples

Agency Approvals

Agency	Agency File Number	Part Number
	E320116	CG40.8 - CG41.0 CG41.8 - CG43.0
	E320116	CG41.2

Two Electrode GDT Graphical Symbol



Description

The Littelfuse CG4 Gas Discharge Tubes (GDT) series provides high levels of protection against fast rising transients caused by lightning disturbances. Offered in a miniature surface mount package, it has a surge rating of 3kA 8/20µs.

Littelfuse CG4 mini GDTs are high voltage (800-3000V) components designed for surge protection and high isolation applications. It is also suitable for applications for which bias voltage or signal levels of several hundred volts are normally present. CG4 mini GDTs can be used in conjunction with Littelfuse MOVs (Metal Oxide Varistors) to provide superior protection performance for AC applications.

Features

- Voltage Ranges 800V to 3000V
- Excellent response to fast rising transients
- 3kA 8/20µs surge capability pulse as defined by IEC 61000- 4-5, 2nd edition
- UL Recognized to UL 1449. CG41.2 is Recognized to both UL 1449 and CSA C22.2 No. 269.5.
- Offered in SMD package with square terminals
- Non-Radioactive
- Ultra Low capacitance (<0.8pF)
- RoHS compliant and Lead-free

Applications

- CATV equipment
- Antennas
- Air conditioning
- EV Power Station
- Inverters/Variable Frequency Drives (VFD)
- IEEE 803.2 compliant
- Ethernet interfaces
- Power Supplies
- Medical electronics
- Test Equipment
- Renewable Energy

CG4 Series
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Electrical Characteristics

Part Number	Device Specifications (at 25°C)								Life Ratings			
	DC Breakdown in Volts (@100V/s)			Impulse Break-down in Volts (@100V/µs)	Impulse Break-down In Volts (@1 kV/µs)	Insulation Resistance	Capaci-tance (@1MHz)	Max Impulse Discharge Current (8/20µs)	AC Dischage Current (50Hz, 1s)	AC Dischage Current (Single, 9 Cycles)	Arc Voltage (On State Voltage @ 1A, 1Min)	Impulse Life (10/1000µs) (100A)
	Min	Typ	Max	Max		Min	Max		Min	Min		Min
CG40.8	640	800	960	1200	1300	1GΩ*	0.8pF	±5 Shots (@ 3kA) 1 Shot at 5kA	3A	10A	20V	300 Shots
CG41.0	800	1000	1200	1400	1500							
CG41.2	960	1200	1440	1700	1800							
CG41.8	1440	1800	2160	2700	2800							
CG42.0	1600	2000	2400	3100	3200							
CG42.5	2000	2500	3000	3700	4000							
CG42.7	2160	2700	3240	3800	4200							
CG43.0	2400	3000	3600	4100	4500							

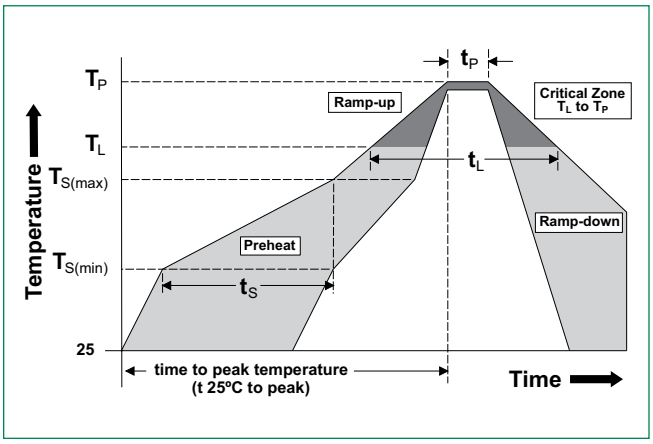
Note:
***** Insulation resistance measured at:
- 250Vdc for CG40.8,
- 500Vdc for CG41.0 8, CG41.0, CG41.8 and CG42.0,
- 1000Vdc for CG42.5, CG42.7 and CG43.0

Product Characteristics

Materials	Device Tin Plated 17.5 ± 12.5 Microns Construction: Ceramic Insulator
Storage and Operational Temperature	-40 to +90°C

Soldering Parameters - Reflow Soldering (Surface Mount Devices)

Reflow Condition		Pb – Free assembly
Pre Heat	**-Temperature Min ($T_{s(min)}$)**	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (Min to Max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		5°C/second max
Reflow	**-Temperature (T_L) (Liquidus)**	217°C
	-Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		10 – 30 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		260°C



CG4 Series
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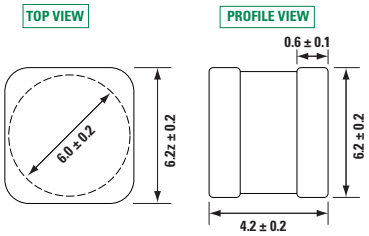
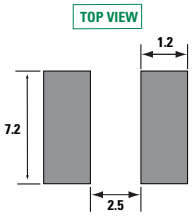
Device Dimensions

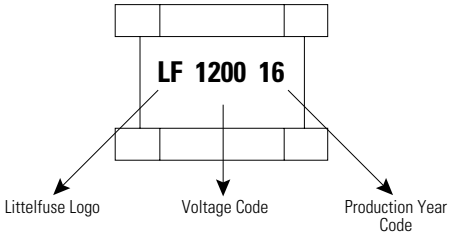
Dimensions in millimeters





Recommended Soldering Pad Layout

Product Marking



Part Numbering System and Ordering Information

CG4 x.x SM

Series
CG4

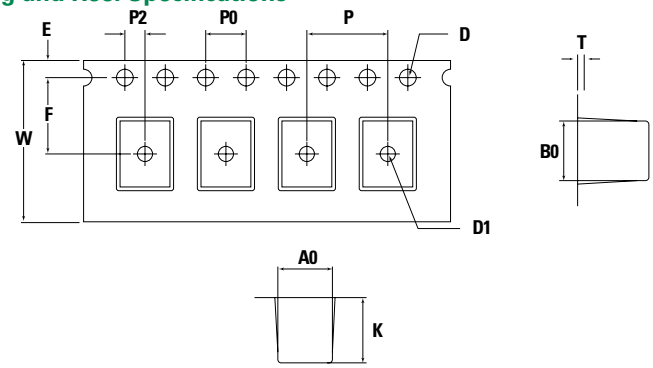
Breakdown Voltage
0.8 = 800V
1.0 = 1000V
3.0 = 3000V
(Voltage code examples for x.x)

Lead Option Code
SM (Surface Mount, two squared terminals)

Taping and Reel Specifications

Unit = mm

Item	Spec	Item	Spec
P	**8.0 ± 0.1**	**E**	**1.75 ± 0.1**
P0	**4.0 ± 0.1**	**D**	**1.50 + 0.1/-0.0**
P2	**2.0 ± 0.1**	**D1**	**1.50 + 0.1/-0.0**
W	**16.0 ± 0.3**	**K0**	**6.5 ± 0.1**
F	**7.5 ± 0.1**	**T**	**0.4 ± 0.05**
A0	**4.9 ± 0.1**	**B0**	**6.5 ± 0.1**



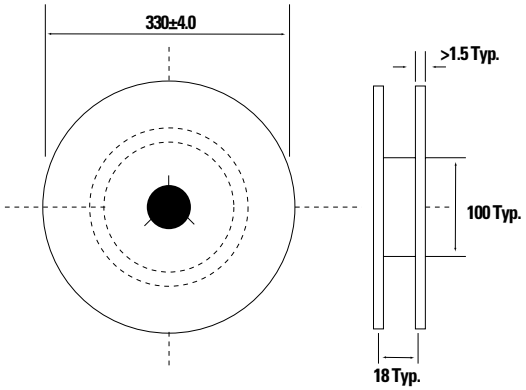
Packaging Quantity:

1000 pcs per reel (13")

1 reels per inner box

10 inners box per carton

10,000 pcs per full carton



Revised: GD. 01/11/22