

# AC and CG3 Series









### **Agency Approvals**

AGENCY	AGENCY FILE NUMBER
<b>71</b> .	E320116*

<sup>\*</sup>NOTE: CG3 7.5 product UL approval is currently pending

# 2 Electrode GDT Graphical Symbol



#### **Additional Information**



Datasheet AC Series



Datasheet CG3 Series



Resources AC Series



Resources CG3 Series



Samples AC Series



Samples CG3 Series

# **Description**

Littelfuse AC series two-electrode line protectors provide a high degree of surge protection in AC line applications. The two models, AC120 and AC240 are designed for use with 120VAC and 240VAC lines respectively. They are able to extinguish AC follow-on currents of at least 200A.

Littelfuse CG3 two electrode high voltage (1.0 - 7.5 KV) devices 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
- Low capacitance (<1.5 pF)</li>
- Available in tape-andreel packaging
- Available with or without leads

#### **Applications**

#### **AC Series:**

- Long branch circuits (AC wall outlet)
- Short branch circuits (at breaker box, computer, etc)

# CG3 Series:

- CRT terminals
- CATV equipment
- Antennas

- Power supplies
- Test equipment
- Submersible pumps
- Medical electronics
- Power supplies
- Medical electronics

# Gas Discharge Tubes AC and CG3 Series

# **Electrical Characteristics**

	0	Device Specifications					<b>s</b> (at 25°C)			Life Ratings				
Part	Device Dimension Type	i	Breakd in Volts @100V/s	;	Impulse Break- down in Volts (@100V/µs)	Impulse Break- down In Volts (@1 Kv/µsec)	Insulation Resistance	Capaci- tance (@1MHz)	Arc Voltage (on state Voltage) @1Amp Min	Max Follow On Current³	Nominal AC Discharge Current (10x1sec @50-60Hz)	AC Discharge Current (1 x 50Hz 9 cycles)	Nominal Impulse Discharge Current <sup>4</sup> (@8/20µs)	Max Surge Current <sup>5</sup> (@8/20µs)
Number	۵	MIN	TYP	MAX	MAX		MIN	MAX	TYP					
AC1201	Α	230	285	340	500	550	10 GΩ (at 100V)	<1.5 pf	~ 25 V	200 Amps	5 A	65 A	10 shots 5kA	1 shot 10kA
AC240 <sup>1</sup>	Α	480	600	720	1100	1200								
CG3 1.0 <sup>1</sup>	Α	800	1000	1200	1400	1500		<1.5 pf	~ 25 V	200 Amps	N/A	N/A	10 shots 5kA	1 shot 10kA
CG3 1.1 <sup>1</sup>	Α	880	1100	1320	1600	1700								
CG3 1.2 <sup>1</sup>	Α	960	1200	1440	1700	1800								
CG3 1.31	Α	1040	1300	1560	1800	1900								
CG3 1.5 <sup>1</sup>	Α	1200	1500	1800	1800	2000								
CG3 2.0 <sup>1</sup>	Α	1600	2000	2400	2500	2750								
CG3 2.5 <sup>1</sup>	Α	2000	2500	3000	3200	3500								
CG3 2.7 <sup>1</sup>	Α	2160	2700	3240	3600	4000	10 GΩ							
CG3 3.0 <sup>1</sup>	Α	2400	3000	3600	4000	4200	(at 100V)							
CG3 3.3 <sup>1</sup>	Α	2640	3300	3960	4600	4700								
CG3 4.0 <sup>2</sup>	В	3200	4000	4800	5800	6000								
CG3 4.5 <sup>2</sup>	В	3600	4500	5400	6150	6500								
CG3 5.0 <sup>2</sup>	В	4000	5000	6000	7500	8000								
CG3 6.2 <sup>2,7</sup>	В	4960	6200	7440	8100	9500								
CG3 6.5 <sup>2,7</sup>	В	5200	6500	7800	9500	10000								
CG3 7.5 <sup>2,6,7</sup>	В	6000	7500	9000	10000	10600								

#### NOTES

- 1. Refer to Production Dimensions section, outline A devices
- 2. Refer to Production Dimensions section, outline B devices
- 3. Tested to UL1449 120V r.ms. for AC120, 230V r.m.s. all others. Conducted with suitable MOV connected in series.
- 4. 10 x [5(+) and 5(-)] applications 5kA @ 8/20 $\mu s$
- 5. 1 x [1(+) and 1(-)] application 10kA @ 8/20 $\mu$ s
- 6. CG3 7.5 product UL approval is currently pending
- 7. When ordering this item, use suffix code D004 when entering the part number. The older product version without D004 suffix code has been discontinued. Refer to Part Numbering System section for additional information.

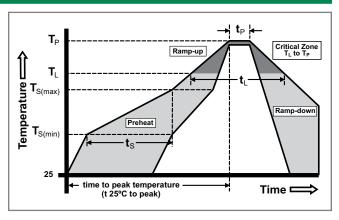
# **Product Characteristics**

BA-4	Core Outline A & B items: Device: Tin Plated 17.5±12.5 Microns				
Materials	<b>Axial Outline A &amp; B items:</b> Device & Wire: Tin Plated 17.5±12.5 Microns				
Product Marking	LF Logo, Voltage and date code; Black ink positive print				
Glow to arc transition current	< 0.5Amps				
Glow Voltage	~ 140 Volts				
Storage and Operational Temperature	-40 to +90				

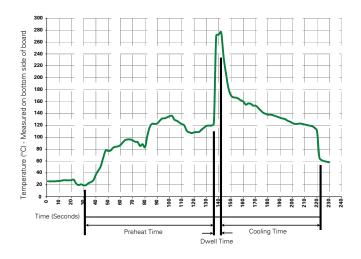


# **Soldering Parameters - Reflow Soldering (Surface Mount Devices)**

Reflow Co	ondition	Pb – Free assembly		
	-Temperature Min (T <sub>s(min)</sub> )	150°C		
Pre Heat	-Temperature Max (T <sub>s(max)</sub> )	200°C		
	-Time (Min to Max) (t <sub>s</sub> )	60 – 180 secs		
Average r	amp up rate (Liquidus Temp ak	3°C/second max		
T <sub>S(max)</sub> to T	- Ramp-up Rate	5°C/second max		
Reflow	-Temperature (T <sub>L</sub> ) (Liquidus)	217°C		
nellow	-Temperature (t <sub>L</sub> )	60 – 150 seconds		
PeakTemp	perature (T <sub>P</sub> )	260 <sup>+0/-5</sup> °C		
Time with	in 5°C of actual peak ure (t <sub>p</sub> )	10 – 30 seconds		
Ramp-dov	wn Rate	6°C/second max		
Time 25°C	to peakTemperature (T <sub>P</sub> )	8 minutes Max.		
Do not ex	ceed	260°C		



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



# Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation		
Preheat:	(Typical Industry Recommendation)		
(Depends on Flux Activation Temperature)  Temperature Minimum:	100° C		
Temperature Maximum:	150° C		
Preheat Time:	60-180 seconds		
Solder Pot Temperature:	280° C Maximum		
Solder Dwell Time:	2-5 seconds		

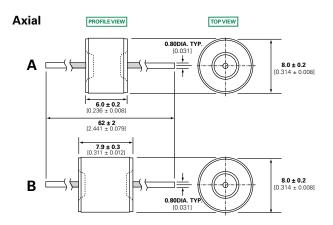
# **Soldering Parameters - Hand Soldering**

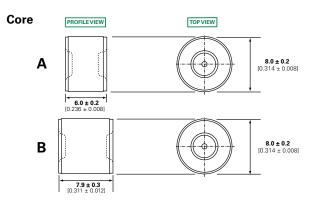
Solder Iron Temperature: 350° C +/- 5°C

Heating Time: 5 seconds max.

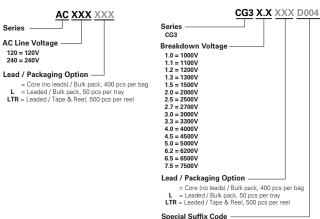


# **Device Dimensions**



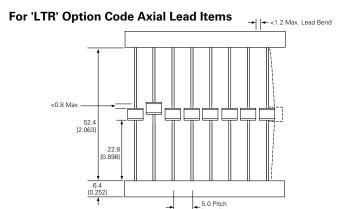


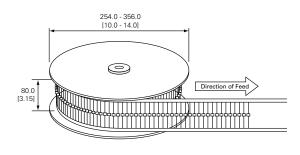
# **Part Numbering System and Ordering Information**



Enter this D004 special suffix code when placing orders for CG36.2, CG36.5 and CG37.5 only

#### **Packaging Dimensions**





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. Littlefuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at: <a href="https://www.littlefuse.com/disclaimer-electronics.">www.littlefuse.com/disclaimer-electronics.</a>

# **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Gas Discharge Tubes - GDTs / Gas Plasma Arrestors category:

Click to view products by Littelfuse manufacturer:

Other Similar products are found below:

M51-A90X PMT1023004 PMT1040004 CG2800 GTCR37-231M-R10 WPGT-2N145B6L WPGT-2N230B6L WPGT-2N470B6L WPGT-2RM230A6L WPGT-2RM350A6L WPGT-2RM70A6L WPGT-2RM90A6L WPGT-2S145 WPGT-2S350 WPGT-2S470 WPGT-3R350CF WPGT-3R350G1 WPGT-3R90G1 WPGT-3R75G1 WPGT-3R470G1 WPGT-3R250C WPGT-3R230G1 WPGT-2S230 WPGT-2RM145A6L WPGT-2R1000B8L WPGT-2N70B6L WPGT-2N350B6L WPGT-2N230B6L1 CG2145 T61-C350X 9071.99.0547 (73\_Z-0-0-547) B88069X6940B152 RF1219-000 A9L16618 RF2339-000 9071.99.0052(73\_Z-0-0-52) 9071.99.0054 CG32.7L CG6400SM CG6470SM CG7250MS CG7400MS SPBT12-280/1 SPCT2-280/3 SPCT2-280/4 T2 20KA 4P 2003-09-SM-RPLF 2026-07-A1 2026-25-C3 2039-80-BLF