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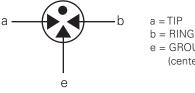
#### PMT3(310) Series RoHS (PO)



Agency A	pprovals
AGENCY	AGENCY FILE NUMBER
.91	E128662

# **3 Electrode GDT Graphical Symbol**

**Electrical Characteristics** 



e = GROUND

(center electrode)

# Description

Littelfuse three electrode PMT3(310) series GDTs are designed primarily to protect telecommunications equipment requiring simultaneous crowbar action of two signal lines. GDTs function as switches; dissipating a minimum amount of energy and can handle much higher currents than other types of transient voltage protection.

### Features

- Rugged ceramic-metal construction
- Low capacitance (<1.5 pF)
- Available with or without fail-safe clip
- Available with or without leads
- Available with various lead spacings

**A** 

• Tested to REA PE-80

# Applications

- Telephone interface
- Telephone line cards
- Repeaters
- Modems
- Line test equipment

Part Number		Device Specifications						Life Ratings						
	DC Breakdown (I-g) @500V/µs		DC Voltage 100 V/ µSec.	DC Voltage 1kV/ µSec.	Insulation Resistance	Capaci- tance (@1Mhz)	AC Current 11 cycles @ 50-60Hz <sup>1</sup>	AC Current 50Hz 1Sec. x10 <sup>1</sup>	Surge Current 8/20µSec x101	Max Single Surge 8/20	Max Single Surge 10/350	Surge Life 10/1000 µSec		
	Min	Тур	Max	μυες.	μυες.	<u>Min</u>		00 00112	X10	×10	µSec¹	µSec¹	x 400¹	
PMT3(310)090	72	90	108	500	650	10 <sup>10</sup> Ω (at 50V) 10 <sup>10</sup> Ω (at 100V)								
PMT3(310)150	120	150	180	500	600									
PMT3(310)230	184	230	276	600	700			1 E of	1204 mana	20 4 mana	2014		ELA	11.0
PMT3(310)250	200	250	300	600	700		1.5 pi	130Amps	20Amps	20kA	25kA	5kA	1kA	
PMT3(310)350	280	350	420	900	1000									
PMT3(310)400	320	400	480	900	1000									
PMT3(310)500	400	500	600	1100	1200									

#### NOTES:

1. Total current through center electrode, tested in accordance with ITU-T Rec K.12 and REA PE 80

End of life DC: 50% of minimum initial DC breakdown voltage to 150% of maximum initial DC breakdown voltage limit.

Impulse: less than 150% of initial impulse breakdown down limit.



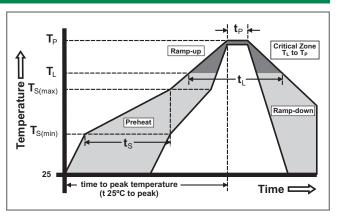
# **Product Characteristics**

Materials	Dull Tin Plate 17.5 $\pm$ 12.5 Microns with Ceramic Insulator
Product Marking	Littelfuse 'LF' marking, Voltage and date code.
Glow to arc transition current	~ 1Amp
Glow Voltage	~ 60-200 Volts

Storage and Operational Temperature	-40 to +90°C
Transverse Voltage (Delay Time) Tested to ITU-T Rec. K.12	< 0.2µSec
Arc Voltage	~ 10 to 35 Volts
Holdover Voltage Tested to ITU-T Rec. K.12 & REA PE 80	< 150mS

# Soldering Parameters - Reflow Soldering (Surface Mount Devices)

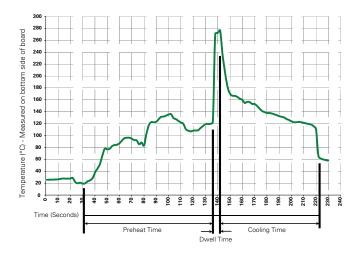
Reflow Co	ndition	Pb – Free assembly		
Pre Heat	-Temperature Min (T <sub>s(min)</sub> )	150°C		
	-Temperature Max (T <sub>s(max)</sub> )	200°C		
	-Time (Min to Max) (t <sub>s</sub> )	60 – 180 secs		
Average ra (T <sub>L</sub> ) to pea	amp up rate (Liquidus Temp k	3°C/second max		
$T_{S(max)}$ to $T_L$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



# Soldering Parameters - Hand Soldering

Solder Iron Temperature: 350° C +/- 5°C Heating Time: 5 seconds max.

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



# **Recommended Process Parameters:**

Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
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

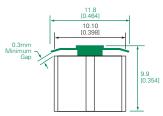
Note: Surge Arrestors with a Failsafe mechanism should be individually examined after soldering

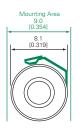


# **Device Dimensions**

NOTE: Failsafe option dimensions shown in green.

#### Type 01 - Surface Mount Core



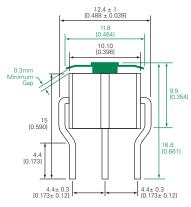


Mounting Area 9.0 [0.354]

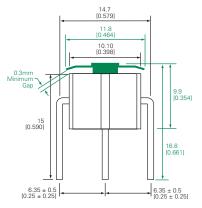
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#### Type 04 - Shaped Radial Leads

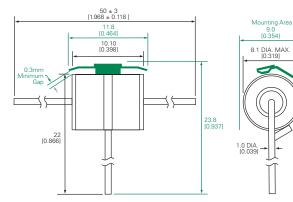


#### Type 06 - Straight Radial Leads





#### Type 14 - Straight "T" Leads



Packaging					
Device Type	Description	Quantity			
Type 01	100pcs/tray x 5 trays per carton	500			
Type 04	100pcs/tray x 5 trays per carton	500			
Type 06	100pcs/tray x 5 trays per carton	500			
Type 14	50pcs/tray x 5 trays per carton	250			

### **Part Numbering System**

<u>PMT3(310) XXX X</u>	<u>x x</u>	(
Series PMT3(310)		
Breakdown Voltage		
Device Type   See Dimensions section:   01 = Type 01   04 = Type 04   06 = Type 06   14 = Type 14		
Packaging Option Code —— Blank = No Failsafe F = With Failsafe		