Surface Mount Fuses NANO^{2®} > 157T Fuse and Holder Combination



ROHS HF CALLINS CPS

157T Series – Standard Nano^{2®} Fuse and Clip Assembly

Agency Approvals			
AGENCY	AGENCY FILE NUMBER	AMPERE RANGE	
c SN ° us	E14721	0.375A ~ 5A	
PSE	NBK030205-E10480B	1A - 5A	

Electrical Characteristics for Series				
% of Ampere Rating	% of Ampere Rating	Opening Time at 25°C		
100%	0.375A ~ 5A	4 hours, Minimum		
200%	0.375A ~ 5A	1 sec. Minimum, 60 secs. Maximum		
300%	0.375A ~ 5A	0.20 secs. Minimum, 3.00 secs. Maximum		
800%	0.375A ~ 5A	0.02 secs. Minimum, 0.10 secs. Maximum		

Description

The 157T Series Fuse/Clip assembly is a small, square, Time-Lag, surface mount fuse that is assembled in surface mountable fuse clips. The unique time delay feature of this fuse design helps solve the problem of nuisance "opening" by accommodating inrush currents that normally cause a fast acting fuse to open.

The fuse clip and pre-installed fuse combination can be automatically placed in PC Board in one efficient manufacturing operation. It permits guick and easy replacement of fuses without performing desoldering process, even in the field and without exposing the PC Board to detrimental effects of rework solder heat.

Features

- Surface Mountable, Time-Lag Fuse.
- Fully compatible with RoHS/Pb-Free solder alloys and higher temperature profiles associated with leadfree assembly.
- Easily replaceable on PC Board (Field Replaceable)
- RoHS Compliant and Halogen-free
- Available in ratings of 0.375 ~ 5 Amperes.

• Telecommunications

Applications

- Instrumentations
- Base Stations

Additional Information



Datasheet



Samples

Interrupting Nominal Cold Nominal Agency Approvals Ampere Amp Max Voltage Fuse Rating Resistance Melting Rating (A) Code Rating (V) Furnished c **T**us (Ohms) I2t (A2sec) 0.375 .375 125 0454.375 1.2214 0.101 Х 125 0.7047 0.500 .500 0454.500 0.240 Х 0.750 .750 125 0454.750 0.3602 0.904 Х 1.00 001 125 0454001. 0.2245 1.98 Х Х Х Х 1.50 01.5 125 045401.5 0.0934 3.65 2.00 002 125 50A @ 125VAC/VDC 0454002. 0.0629 8.20 Х Х 2.50 02.5 125 045402.5 0.0452 15.0 Х Х 3.00 003 125 0454003. 0.0342 20.16 Х Х 3.50 03.5 125 045403.5 0.0226 26.53 Х Х Х 4.00 004 125 0454004. 0.0188 34.40 Х 5.00 005 125 0454005. 0.0138 53.72 Х Х

1. Cold resistance measured at less than 10% of rated current at 23°C.

2. I2t values stated for 8ms opening time.

3. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved

4. Have special electrical characteristic needs? Contact Littelfuse to learn more about application specific options

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Specifications are subject to change without notice. Application testing is strongly recommended. Bevised: 05/20/15

Electrical Specifications by Item



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Temperature Re-rating Curve



Note:

1. Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.



Soldering Parameters

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 – 120 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		5°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 – 90 seconds
PeakTemperature (T _P)		250 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t _p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T _P)		8 minutes Max.
Do not exceed		260°C





Product Characteristics

Materials	Body: Ceramic Cap: For 0.375A ~ 5A – Silver plated Brass Clip Plating: Matte Tin	
Product Body: Brand Logo, Current Rating, "T" fo Marking Time-Lag		
Clip Retention Force applied at fuse center, perpendicular the long axis (@0.75 lbs. MIN)		
Solderability	MIL-STD-202, Method 208 / IPC/ EIA / JEDEC J-STD-002, Test Condition A	
Humidity Test	MIL –STD-202, Method 103 @ 85°C / 85%RH, 1000 hours	
Resistance to Solvents	MIL-STD-202, Method 215 (3 solvent types)	

Operating Temperature	-55°C to 125°C with proper derating		
Thermal Shock	MIL-STD-202, Method 107, Test Condition B (5 cycles -65°C to +125°C)		
Vibration	MIL-STD-202, Method 201 (10-55 Hz)		
Moisture Resistance	MIL-STD-202, Method 106, 10 cycles		
Salt Spray/ Atmosphere	MILSTD-202, Method 101, Test Condition B (48 hrs.), 5% NaCl in De-ionized Water		
Shock	MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds)		

Part Numbering System



Packaging					
Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code		
Tape and Reel	Surface Mount	1500	DRT		

Dimensions



PCB Recommendation for Thermal Management

1. Minimum Copper Layer Thickness = 100um

2. Minimum Copper Trace Width = 10mm

Note:

Alternate methods of thermal management may be used. In such cases, under normal operations, the maximum temperature of the fuse body should not exceed 80° C in a 25°C ambient environment.

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