

ROHS HF CALUS CE SE

456 Series Fuse



Agency A	gency Approvals					
AGENCY	AGENCY FILE NUMBER	AMPERE RATING				
c FN us	E10480	20A - 40A				
\triangle	T50291892	20A - 30A				
PS E	NBK030308-JP1021	20A - 30A				
SP:	29862	20A - 40A				

Electrical Characteristics % of **Opening Time** Ampere Rating 100% 4 hours, Minimum 200% 60 seconds, Maximum

Description

The High Current NANO^{2®} Fuse is a small square surface mount fuse that is designed to support higher current requirements of various applications.

Features

- Surface mount high current fuse
- Fully compatible with lead-free solder alloys and higher temperature profiles associated with lead-free assembly
- RoHS compliant and Halogen Free
- Available in ratings of 20 to 40 Amperes

Applications

- Voltage regulator module for PC server
- Basestation power supply
- Cooling fan system for PC server
- Storage system power

Additional Information







Datasheet





Samples

Ampere	Ampere Rating (A) Code	Max Voltage Interrupting Rating Rating (V)		Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A² Sec.)	Nom Voltage Drop (mV)	Agency Approvals			
Rating							c 🔁 us	\triangle	PS	SP.
20	020.	125	100A @125VAC 300A @ 65VAC 300A @ 100VDC 1000A @ 32VDC 500A @ 72VDC	0.00230	18	64.7	х	x	x	x
25	025.	125	100A @ 125VAC 300A @ 65VAC 500A @ 72VDC 1000A @ 32VDC	0.00192	45	68.38	х	x	x	x
30	030.	125	100A @ 125VAC 300A @ 65VAC 1000A @ 32VDC 500A @ 72VDC	0.00132	81	69.9	x	x	x	x
40	040.	72	180A @ 72VDC 600A @ 60VDC	0.00105	191	55	x			x

Notes:

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

2. Agency Approval Table Key: X=Approved or Certified, P=Pending.

3. I²t values stated for 1 msec opening time.

Electrical Specifications



Surface Mount Fuses NANO^{2®} > Very Fast Acting Fuse > 456 Series

Temperature Re-rating Curve



Note:

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

Average Time Current Curves



Soldering Parameters – Reflow Soldering

Reflow Co	ndition	Pb – Free assembly	
	-Temperature Min (T _{s(min)})	150°C	
Pre Heat	-Temperature Max (T _{s(max)})	200°C	
	-Time (Min to Max) (t _s)	60 – 180 secs	
Average ra (T _L) to pea	amp up rate (LiquidusTemp k	5°C/second max.	
$T_{S(max)}$ to T_{I}	- Ramp-up Rate	5°C/second max.	
Reflow	-Temperature (T _L) (Liquidus)	217°C	
Reliow	-Temperature (t _L)	60 – 150 seconds	
PeakTemp	erature (T _P)	260+0/-5 °C	
Time with Temperatu	in 5°C of actual peak ıre (t _p)	20 – 40 seconds	
Ramp-dov	vn Rate	5°C/second max.	
Time 25°C	to peakTemperature (T _P)	8 minutes max.	
Do not exc	ceed	260°C	





Product Characteristics

	Dartha Carrania		
Materials	Body: Ceramic Cap: Silver Plated Brass		
Product Marking	Body: Brand Logo, Current Rating		
Insulation Resistance	MIL-STD-202, method 302, Test Condition A (10,000 ohms, Minimum)		
Solderability	MIL-STD-202, Method 208		
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test Condition B (10 sec at 260°C)		
	Min. copper layer thickness = 100µm Min. copper trace width =20A, 30 10mm (20A, 30A) / 15mm (40A)		
PCB Recommendation for Thermal Management	Alternate methods of thermal man- agement may be used. In such cases, under normal operations, the maxi- mum temperature of the fuse body should not exceed 90°C in a 25°C environment.		

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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 Sensitivity Level	J-STD-020, Level 1	
Moisture Resistance	MIL-STD-202 Method 106, High Humidity (90-98%RH), Heat (65ºC)	
Salt Spray	MIL-STD-202, Method 101, Test Condition B	
Mechanical Shock	MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds)	

Part Numbering System



Packagir	Packaging						
Rating	Packaging Option	Packaging Specification Quantity		Quantity & Packaging Code			
20A, 25A, 30A	24 mm Tape and Reel	EIA RS-481-2	2500	ER			
40A	24 mm Tape and Reel	EIA RS-481- 2 (IEC 286, part 3)	1500	DR			

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