

216SP Series, 5×20 mm, Fast-Acting Fuse



Agency Approvals

Agency	Agency File Number	Ampere Range
	NBK080205-E10480B NBK250702-E10480F	1A – 5A 6.3A – 10A
	CCC self-declaration No.: 2020970207000049	1A – 10A
	SU05001-11001A SU05001-11002A	1A – 2.5A 3.15A – 6.3A
	E10480	1A – 10A
	29862	1A – 10A
	40013834	1 – 6.3A
	J50248090	8A, 10A
	N/A	1A – 10A

Additional Information



Datasheet



Resources



Samples

Description

The 216SP Series is a 5×20mm fast-acting ceramic body cartridge fuse designed to IEC specification.

Features

- Conforms with the international IEC 60127-2 for use globally
- High breaking capacity
- Meets Standard Sheet 1 of IEC 60127-2 as a Fast-Acting fuse
- RoHS compliant and lead-free

Applications

Used as supplementary protection in appliance or utilization equipment to provide individual protection for components or internal circuits.

Electrical Characteristics for Series

% of Ampere Rating	Ampere Rating	Opening Time
210%	1A – 4A	30 minutes, Maximum
	5A – 6.3A	30 minutes, Maximum
	8A – 10A	30 minutes, Maximum
275%	1A – 4A	0.01 sec., Min.; 2 sec. Max.
	5A – 6.3A	0.01 sec., Min.; 3 sec. Max.
	8A – 10A	0.04 sec., Min.; 20 sec. Max.
400%	1A – 4A	0.003 sec., Min.; 0.3 sec. Max.
	5A – 6.3A	0.003 sec., Min.; 0.3 sec. Max.
	8A – 10A	0.01 sec., Min.; 1.0 sec. Max.
1000%	1A – 4A	0.02 seconds, Maximum
	5A – 6.3A	0.02 seconds, Maximum
	8A – 10A	0.03 seconds, Maximum

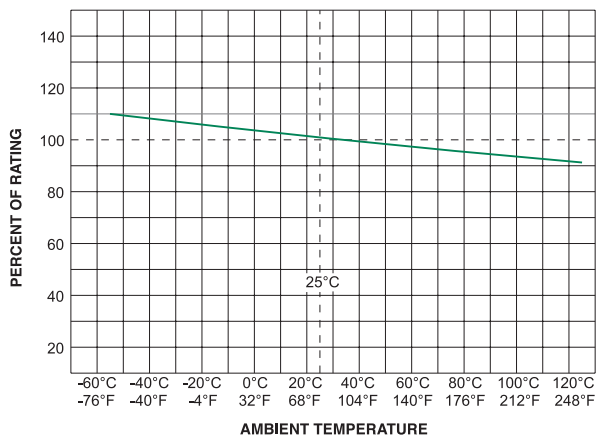
Electrical Characteristic Specifications by Item

Amp Code	Amp Rating	Voltage Rating	Interrupting Rating*	Nominal Resistance Cold Ohms (Ohms)	Nominal Melting I ² t (A ² sec)*	Maximum Voltage Drop at Rated Current (mV)	Maximum Power Dissipation at 1.5I _n (W)	Agency Approvals							
001.	1	250	1500 A @ 250 VAC	0.2370	0.18000	1000	2.5	x	x	x	x	x	x	-	x
016	1.6	250		0.1112	1.00500	600	4	x	x	x	x	x	x	-	x
002.	2	250		0.0764	1.87000	500	4	x	x	x	x	x	x	-	x
02.5	2.5	250		0.0584	3.67200	400	4	x	x	x	x	x	x	-	x
3.15	3.15	250		0.0368	6.70000	350	4	x	x	x	x	x	x	-	x
004.	4	250		0.0247	14.99500	300	4	x	x	x	x	x	x	-	x
005.	5	250		0.0183	27.46000	250	4	x	x	x	x	x	x	-	x
06.3	6.3	250		0.0137	56.43000	200	4	x	x	x	x	x	x	-	x
008.	8	250		0.0123	64.31500	200	4	x	x	-	x	x	-	x	x
010.	10	250		0.0079	154.34000	200	4	x	x	-	x	x	-	x	x

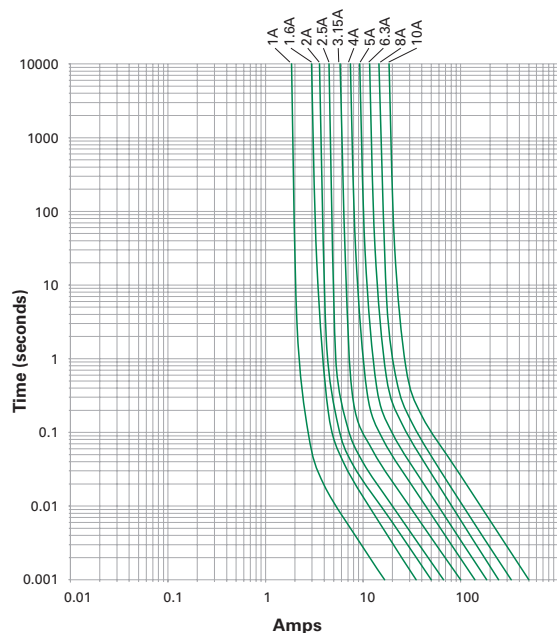
* - I²t test at 10x rated current

+ - Interrupting Rating may differ based on Agency Approval. See Agency Approval certificate for more details.

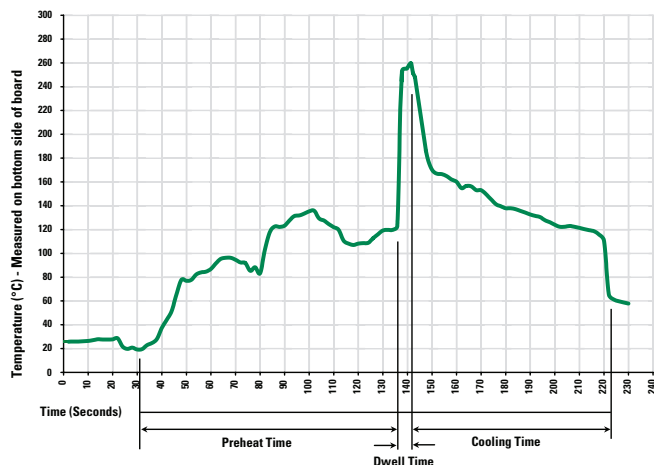
Temperature Re-rating Curve



Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

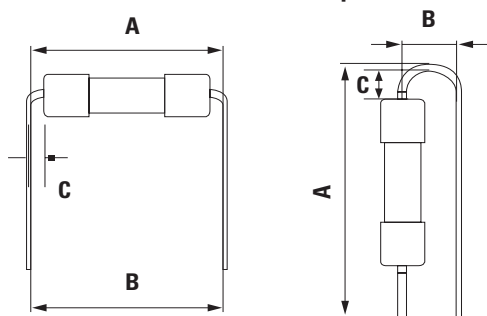
Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	260°C Maximum
Solder Dwell Time:	2-5 seconds

Recommended Hand-Solder Parameters:

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

Note: These devices are not recommended for IR or Convection Reflow process.

Different values of A and B available, please contact the Littelfuse sales representative in your region:



For the pigtailed fuse, please follow the recommendations below for axial lead forming and mounting into PCB:

Lead forming:

The distance C between cap flat surface and axial lead shall be greater than 1.0 mm.

PCB mounting:

According to the standard of IPC-A-610, the distance between PCB and fuse cap is recommended to be a minimum of 1.5 mm.

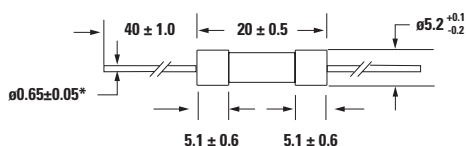
Product Characteristics

Materials	Body: Ceramic Cap: Nickel-plated Brass Leads: Tin-plated Copper
Terminal Strength	MIL-STD-202, Method 211, Test Condition A
Solderability	MIL-STD-202 Method 208
Product Marking	Cap 1: Brand logo, current and voltage ratings Cap 2: Agency approval marks

Operating Temperature	–55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B (5 cycles, –65°C to +125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MIL-STD-202, Method 103, Test Condition A (High RH (95%) and elevated temp (40°C) for 240 hours)
Salt Spray	MIL-STD-202, Method 101, Test Condition B

Dimensions

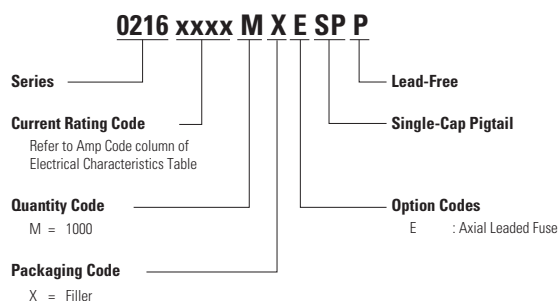
All dimensions in mm



Notes:

* Ratings 8A and 10A have 0.8 ± 0.05 diameter lead.

Part Numbering System



Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code	Reel Size
216SP Series				
Bulk	N/A	1000	MXE	N/A