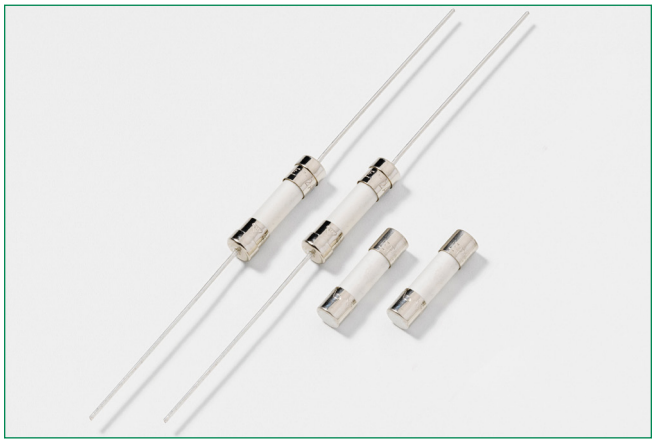
216 Series
5×20 mm, Fast-Acting Fuse



Description

The 216 Series is a 5x20mm, Fast-Acting, ceramic body, cartridge fuse designed to IEC specifications

Features and Benefits

- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Meets Standard Sheet 1 of IEC 60127-2 as a Fast-Acting fuse
- Available in cartridge and axial lead form
- RoHS compliant and lead-free
- Conforms to GB 9364.1 and GB 9364.2
- CE Mark indicates compliance with Low-Voltage and RoHS Directives.

Additional Information

Resources | Accessories | Samples

Applications

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

Agency Approvals

Agency	Agency File Number	Ampere Range
	Cartridge 216 Series NBK 080205-E10480A NBK 250702-E10480E NBK 240108-JP1021C NBK 240108-JP1021E **Leaded 216E Series** NBK 080205-E10480B NBK 250702-E10480F NBK 240108-JP1021D NBK 240108-JP1021F	1A-5A 6.3A-10A 12.5A 16A 1A-5A 6.3A-10A 12.5A 16A
	2020970207000066	0.05A-10A
	SU05001-2013	1A – 10A
	E10480	0.05A – 16A
	29862	
	SE-S-2101461	0.05A - 10A, 16A
	40013834	0.05A – 6.3A *8A, *10A
	40016442	*12.5A
	KM41462	1A – 6.3A
	J50248090	8A – 16A
	N/A	0.05A – 16A

*Approval for Cartridge versions only

Electrical Characteristics for Series

% of Ampere Rating	Ampere Rating	Opening Time
150%	0.05A – 4A	60 minutes, Minimum
	5A – 6.3A	60 minutes, Minimum
	8A – 16A	30 minutes, Minimum
210%	0.05A – 4A	30 minutes, Maximum
	5A – 6.3A	30 minutes, Maximum
	8A – 16A	30 minutes, Maximum
275%	0.05A – 4A	0.01 sec.., Min.; 2 sec. Max.
	5A – 6.3A	0.01 sec.., Min.; 3 sec. Max.
	8A – 16A	0.04 sec., Min.; 20 sec. Max.
400%	0.05A – 4A	0.003 sec., Min.; 0.3 sec. Max.
	5A – 6.3A	0.003 sec., Min.; 0.3 sec. Max.
	8A – 16A	0.01 sec.., Min.; 1.0 sec. Max.
1000%	0.05A – 4A	0.02 seconds, Maximum
	5A – 6.3A	0.02 seconds, Maximum
	8A – 16A	0.03 seconds, Maximum

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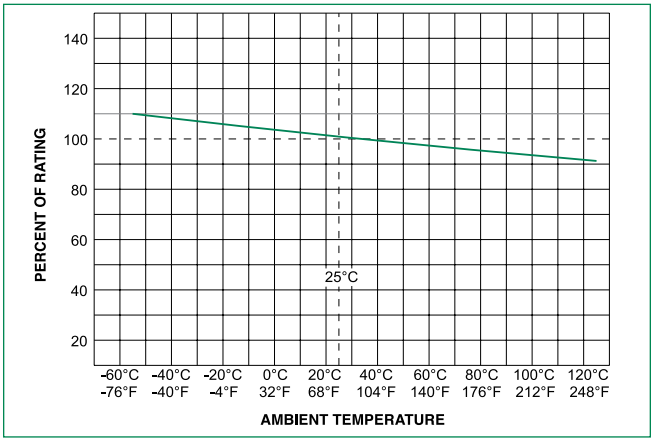
Electrical Characteristics Specifications by Item

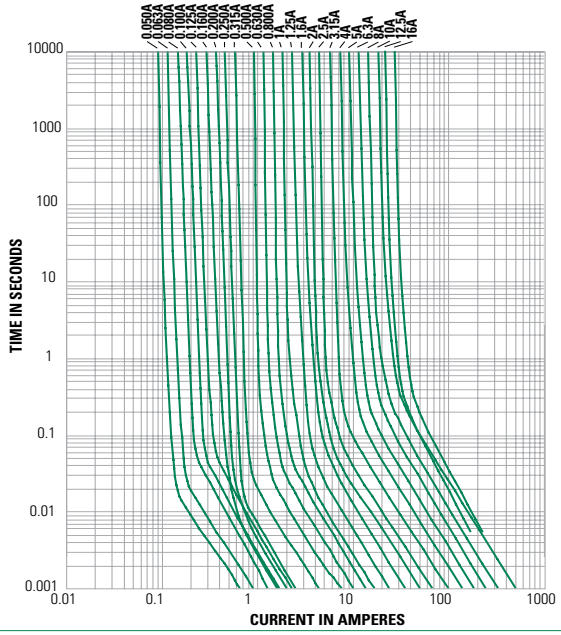
Amp Code	Amp Rating (A)	Voltage Rating (V)	Interrupting Rating⁺	Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A² sec)	Maximum Voltage Drop at Rated Current (mV)	Maximum Power Dissapation at 1.5In (W)	Agency Approvals										
.050	0.05	250	1500A@ 250Vac	15.9000	0.00019	10000	1.6	-	-	x	x	x	x	x	x	-	-	-
.063	0.063	250		10.4500	0.00079	8800	1.6	-	-	x	x	x	x	x	x	-	-	-
.080	0.08	250		7.8850	0.00084	7600	1.6	-	-	x	x	x	x	x	x	-	-	-
.100	0.1	250		5.7925	0.00450	7000	1.6	-	-	x	x	x	x	x	x	-	-	-
.125	0.125	250		3.6750	0.00546	5000	1.6	-	-	x	x	x	x	x	x	-	-	-
.160	0.16	250		5.3490	0.00326	4300	1.6	-	-	x	x	x	x	x	x	-	-	-
.200	0.2	250		3.3500	0.00439	3500	1.6	-	-	x	x	x	x	x	x	-	-	-
.250	0.25	250		2.3500	0.01350	2800	2.5	-	-	x	x	x	x	x	x	-	-	-
.315	0.315	250		1.8500	0.02320	2500	2.5	-	-	x	x	x	x	x	x	-	-	-
.500	0.5	250		0.8660	0.16500	1800	2.5	-	-	x	x	x	x	x	x	-	-	-
.630	0.63	250		0.4650	0.05940	1500	2.5	-	-	x	x	x	x	x	x	-	-	-
.800	0.8	250		0.2950	0.14600	1200	2.5	-	-	x	x	x	x	x	x	-	-	-
001.	1	250		0.2370	0.18000	1000	2.5	x	x	x	x	x	x	x	x	-	-	x
1.25	1.25	250		0.1530	0.48000	800	4	x	x	x	x	x	x	x	x	-	-	x
01.6	1.6	250		0.1112	1.00500	600	4	x	x	x	x	x	x	x	x	-	-	x
002.	2	250		0.0764	1.87000	500	4	x	x	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	x	-	-	x
3.15	3.15	250		0.0368	6.70000	350	4	x	x	x	x	x	x	x	x	-	-	x
004.	4	250		0.0247	14.99500	300	4	x	x	x	x	x	x	x	x	-	-	x
005.	5	250		0.0183	27.46000	250	4	x	x	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	x	-	-	x
008.	8	250		0.0123	64.31500	200	4	-	x	x	x	x	x	x	x*	-	x	x
010.	10	250		0.0079	154.34000	200	4	-	x	x	x	x	x	x	x*	-	x	x
12.5	12.5	250		0.0057	175.00000	200	N/A**		-	-	x	x	-	x	-	x*	x	x
016.	16	250	750A@ 250Vac	0.0040	462.50000	200	N/A**	-	-	-	x***	x	x	x	-	-	x***	x

***** Approval for cartidge versions only.
****** Please contact Littelfuse for details on these parameters I²t test at 10x rated current
******* 1500A@250Vac for 16A
⁺ Interrupting Rating may differ based on Agency Approval. See Agency Approval certificate for more details.

Temperature Re-rating Curve



Average Time Current Curves



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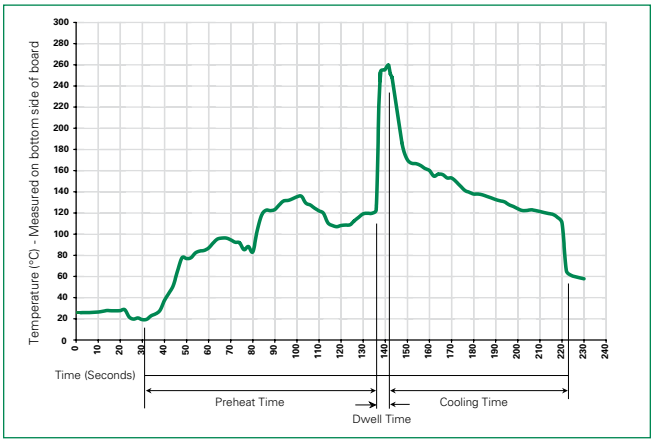
Soldering Parameters - Wave Soldering



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.

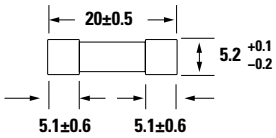
Product Characteristics

Material	Body: Ceramic Cap: Nickel–plated brass Leads: Tin–plated Copper Filler (160mA-16A): Sand
Terminal Strength	MIL-STD-202, Method 211, Test Condition A
Solderability	MIL-STD-202 Method 208
Product Marking	Cap 1: Brand logo, current and voLage rating Cap 2: Agency approval markings
Packaging	Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel)

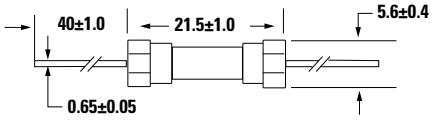
Operating Temperature	–55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B: (5 cycles –65°C to +125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temperature (40°C) for 240 hours.
Salt Spray	MIL-STD-202, Method 101,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

Dimensions

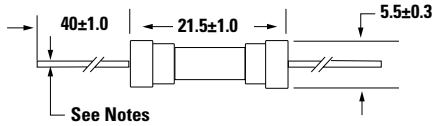
0216 000XP



0216.050XEP to 0216.800XEP



0216001.XEP to 0216016.XEP



All dimensions in mm

Part Numbering System

0216 xxxx M X E P

Series

Amp Code
Refer to Amp Code column of Electrical Characteristics Table

Quantity Code
M = 1000

Packaging Code
X = Filler

Option Codes
Blank : Cartidge Type Fuse
E : Axial Leaded Fuse

Lead-free

Notes:
1. 0.05A-6.3A have 0.65±0.05 diameter lead.
2. 8A-16A have 0.8±0.05 diameter lead.

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Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
216 Series				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	1000	MXE	N/A
Reel and Tape	EIA 296-E	1000	MRET1	T1=53mm (2.087")
Bulk	N/A	1000	MXG	N/A
Bulk	N/A	1000	MXB	N/A
Bulk	N/A	100	HX	N/A

Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
Holder	345_ISF	Panel Mount Shock-Safe Fuseholder	250	10
	345	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options		20
	830	PC Mount Shock-Safe Miniature Fuseholder		16
Block	520	Metric OMNI-BLOK® Fuse Block		10
	646	PC Mount Miniature Fuse Block		6.3
	658	Surface Mount Miniature Fuse Block		10
Clip	520_W	PC Mount Miniature Fuse Clip		6.3
	111	PC Board Mount Fuse Clip		10
	445	PC Board Mount Fuse Clip		10

Notes:
1. Do not use in applications above rating.
2. Please refer to fuseholder data sheet for specific re-rating information.
3. Please contact Littelfuse for applications greater than the max voltage and amperage shown.

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