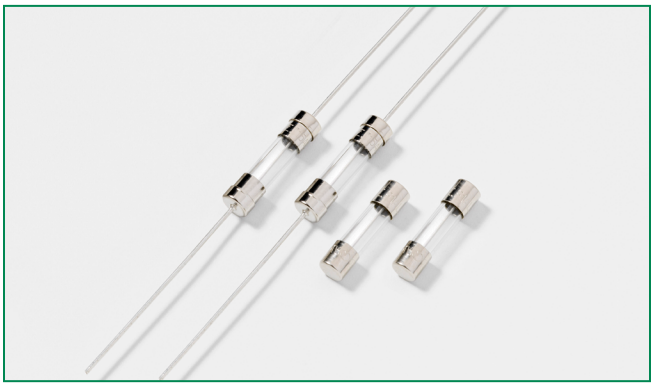
217 Series, 5 × 20 mm, Fast-acting Fuse



Agency Approvals

Agency	Agency File Number	Ampere Range
PS E	Cartridge Certificates: NBK090205-E10480A NBK120802-E10480C Leaded Certificates: NBK090205-E10480B NBK120802-E10480D	1A – 5A 6.3A – 15A 1A – 5A 6.3A – 15A
CCC	Certificates: 2002010207007600	32mA – 6.3A
KC	Certificates: SU05001-3004 SU05001-2005 SU05001-2006 SU05001-2007	32mA – 40mA 50mA – 315mA 400mA – 6.3A 8A & 10A
UL	E10480 JDYX2	32mA – 10A
CSA	File: 029862 Acc. Class: LR1422-30	32mA – 6.3A
SEMKO	File: 1402480	32mA – 6.3A
VDE	License: 40014645	32mA – 6.3A, 8A*, 10A*
VDE	License: 40016647	15A*
FIMKO	License: KM41462	400mA – 6.3A
CE		32mA – 15A

*Approval for cartridge versions only

Description

5×20mm fast-acting glass body cartridge fuse designed to IEC specification.

Features

- Designed to International (IEC) Standards for use globally
- Meets the IEC 60127-2, Sheet 2 specification for fast-acting fuses
- Available in cartridge and axial lead form
- 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
150%	32mA–100mA	60 minutes, Minimum
	125mA-6.3A	60 minutes, Minimum
	8A-15A	30 minutes, Minimum
210%	32mA-100mA	30 minutes, Maximum
	125mA-6.3A	30 minutes, Maximum
	8A-15A	30 minutes, Maximum
275%	32mA-100mA	0.01 sec., Min.; .5 sec. Max.
	125mA-6.3A	0.05 sec., Min.; 2 sec. Max.
	8A-15A	0.05 sec., Min.; 2 sec. Max.
400%	32mA-100mA	.003 sec., Min.; 0.1 sec.. Max.
	125mA-6.3A	.01 sec., Min.; 0.3 sec. Max.
	8A-15A	.01 sec., Min.; 0.4 sec. Max.
1000%	32mA-100mA	.02 second, Maximum
	125mA-6.3A	.02 second, Maximum
	8A-15A	.04 second, Maximum

Additional Information

Datasheet | **Resources** | **Samples**

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Revised: 02/23/15

Axial Lead & Cartridge Fuses

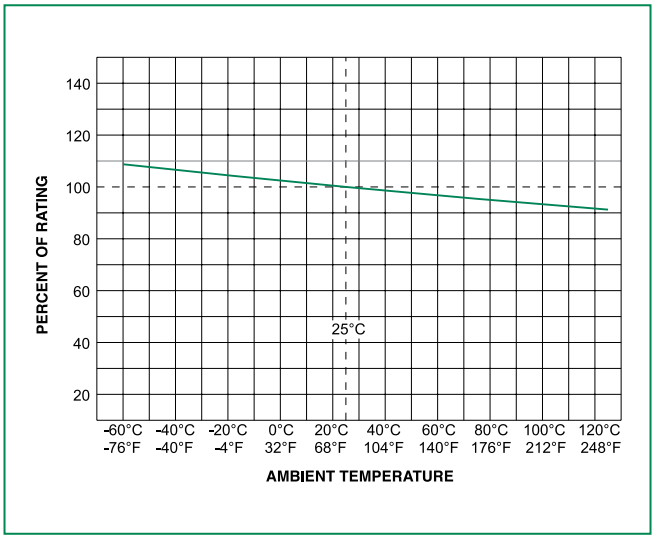
5×20 mm > Fast-Acting > 217 Series

Electrical Characteristic Specifications by Item

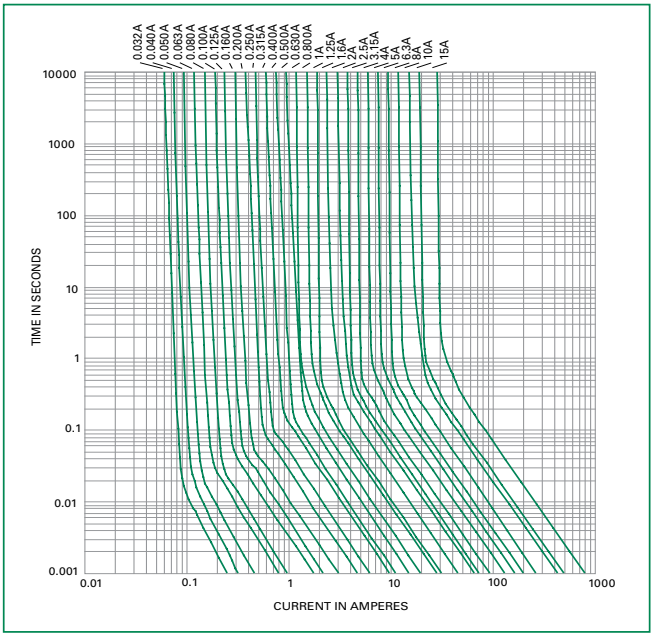
Amp Code	Amp Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I^2t (A^2 sec)	Maximum Voltage Drop at Rated Current (mV)	Maximum Power Dissipation At 1.5In(W)	Agency Approvals								
.032	0.032	250		262.2000	0.00006	10000	1.6		x	x		x	x	x	x	x
.040	0.04	250		183.1500	0.00008	8000	1.6		x	x		x	x	x	x	x
.050	0.05	250		15.2000	0.00019	7000	1.6		x	x		x	x	x	x	x
.063	0.063	250		10.4500	0.00056	5000	1.6		x	x		x	x	x	x	x
.080	0.08	250		7.8900	0.00083	4000	1.6		x	x		x	x	x	x	x
.100	0.1	250		5.6965	0.00450	3500	1.6		x	x		x	x	x	x	x
.125	0.125	250		3.8200	0.00478	2000	1.6		x	x		x	x	x	x	x
.160	0.16	250		2.5250	0.01000	2000	1.6		x	x		x	x	x	x	x
.200	0.2	250		1.7000	0.02000	1700	1.6		x	x		x	x	x	x	x
.250	0.25	250		1.2325	0.04000	1400	1.6		x	x		x	x	x	x	x
.315	0.315	250	35A@250Vac	0.8800	0.11000	1300	1.6		x	x		x	x	x	x	x
.400	0.4	250		0.2770	0.12500	1200	1.6	x	x	x		x	x	x	x	x
.500	0.5	250		0.2065	0.21500	1000	1.6	x	x	x		x	x	x	x	x
.630	0.63	250		0.1900	0.41000	650	1.6	x	x	x		x	x	x	x	x
.800	0.8	250		0.1203	0.85000	240	1.6	x	x	x		x	x	x	x	x
001.	1	250		0.0964	1.04500	200	1.6	x	x	x	x	x	x	x	x	x
1.25	1.25	250		0.0701	2.23000	200	1.6	x	x	x	x	x	x	x	x	x
01.6	1.6	250		0.0528	4.61500	190	1.6	x	x	x	x	x	x	x	x	x
002.	2	250		0.0416	5.73000	170	1.6	x	x	x	x	x	x	x	x	x
02.5	2.5	250		0.0334	9.46000	170	1.6	x	x	x	x	x	x	x	x	x
3.15	3.15	250		0.0224	17.72000	150	2.5	x	x	x	x	x	x	x	x	x
004.	4	250	40A@250Vac	0.0165	29.16500	130	2.5	x	x	x	x	x	x	x	x	x
005.	5	250	50A@250Vac	0.0137	42.79500	130	2.5	x	x	x	x	x	x	x	x	x
06.3	6.3	250	63A@250Vac	0.0095	62.46500	130	2.5	x	x	x	x	x	x	x	x	x
008.	8	250	80A@250Vac	0.0068	198.16000	130	4		x		x	x			x	x*
010.	10	250	100A@250Vac	0.0063	217.63500	130	4		x		x	x			x	x*
015.	15	250	150A@250Vac	0.0040	607.13500	130	4				x				x	x*

* Approval for cartidge versions only.

Temperature Re-rating Curve



Average Time Current Curves



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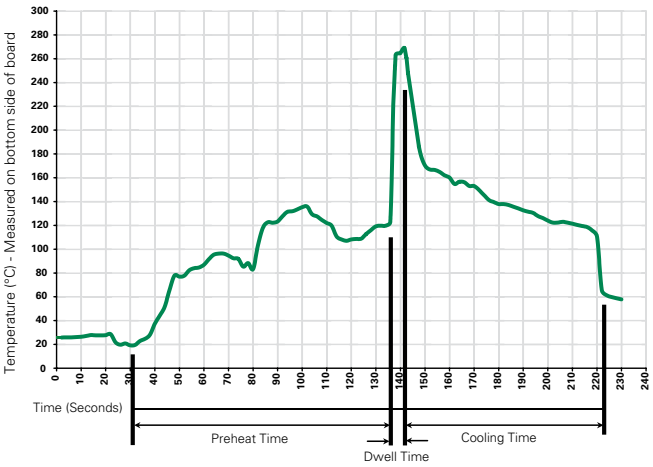
Soldering Parameters - Wave Soldering



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: Glass Cap: Nickel–plated brass Leads: Tin–plated Copper
Terminal Strength	MIL-STD-202G, Method 211A, Test Condition A
Solderability	Reference IEC 60127 Second Edition 2003-01 Annex A
Product Marking	Cap1: Brand logo, current and voltage ratings Cap2: Agency approval marks
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-202G, Method 107G, Test Condition B: (5 cycles –65°C to +125°C)
Vibration	MIL-STD-202G, Method 201A
Humidity	MIL-STD-202G, Method 103B, Test Condition A. high RH (95%) and elevated temperature (40°C) for 240 hours.
Salt Spray	MIL-STD-202G, Method 101D, Test Condition B

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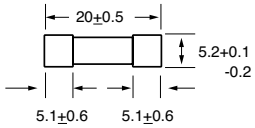
Axial Lead & Cartridge Fuses

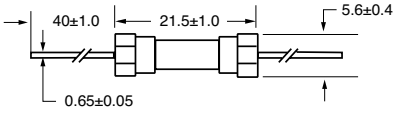
5×20 mm > Fast-Acting > 217 Series

Dimensions

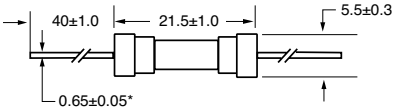
0217 000P



0217.032 **XEP**
to
0217.315 **XEP**



0217.400 **XEP**
to
0217015 **XEP**



All dimensions in mm

Notes:
* Ratings above 6.3A have 0.8±0.05 diameter lead.

Part Numbering System

0217 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 = Cartridge Type Fuse
E = Axial Leaded Fuse

Lead-free

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
217 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

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Mouser Electronics

Authorized Distributor

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Littelfuse:

021702.5MRET1P 0217.050MXEP 0217.630MXEP 0217.100HXP 0217.500MXP 0217.100MXEP 0217.125MXP 0217.250HXP 0217.063HXP 0217.800MXP 0217.250MXEP 0217002.MXEP 0217.400MXP 0217004.MXEP 021701.6MXP 0217.200HXP 0217.032MXP 0217.315MXP 0217.160HXP 021701.6MXEP 0217.400HXP 0217.500HXP 021706.3MXP 0217.125HXP 0217.630HXP 0217004.HXP 021702.5HXP 0217.080MXEP 0217.125MXEP 02173.15MXEP 0217.315HXP 0217.315MXEP 0217.630MXP 0217002.MXP 0217.200MXEP 021702.5MXEP 0217005.MXEP 02171.25MXP 0217.050HXP 0217.100MXP 0217.500MXEP 0217.100MRET1P 0217.080MXP 0217.800HXP 0217.063MXP 0217004.MXP 02173.15HXP 0217.800MXEP 02171.25HXP 0217001.MXP 0217.160MXP 0217.032HXP 0217005.MXP 0217005.HXP 021702.5MXP 021701.6HXP 0217.050MXP 021706.3MXEP 02173.15MXP 0217002.HXP 0217001.HXP 0217001.MXEP 021706.3HXP 0217.250MXP 0217.063MXEP 0217.160MXEP 02171.25MXEP 0217.400MXEP 0217.080HXP 0217.200MXP 0217.032MXEP 0217.630MRET1P 0217002.MRET1P 0217004.MRET1P 0217.500MRET1P 0217.315MRET1P 02171.25MRET1P 02173.15MRET1P 0217.050MRET1P 0217.080MRET1P 0217.160MRET1P 0217.400MRET1P 0217.800MRET1P 0217.125MRET1P 0217.200MRET1P 0217.250MRET1P 021706.3MRET1P 0217005.MRET1P 021701.6MXBP 021701.6MRET1P 0217.063MRET1P 0217.032MRET1P 0217001.MRET1P 0217.500TXP 0217.200TXP 021706.3TXP 0217.250TXP 0217002.XBP 0217.080MXBP 0217002.TXP