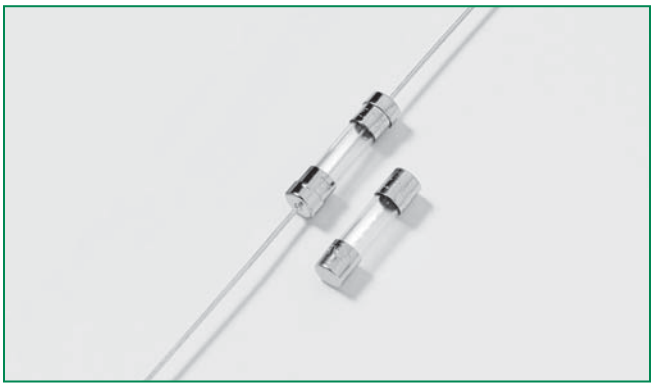
217 Series, 5 x 20 mm, Fast-acting Fuse



Agency Approvals

Agency	Agency File Number	Ampere Range
	Cartridge Certificates: NBK120802-E10480 A&C Leaded Certificates: NBK120802-E10480 B&D	1A – 5A 6.3A – 15A 1A – 5A 6.3A – 15A
	Certificates: 2002010207007600	32mA – 6.3A
	Certificates: SU05001-3004 SU05001-2005 SU05001-2006 SU05001-2007	32mA – 40mA 50mA – 315mA 400mA – 6.3A 8A & 10A
	E10480 JDYX2	32mA – 6.3A
	File: 029862 Acc. Class: LR1422-30	
	File: 948103, 915516, 304518 & 304555	32mA – 6.3A
	License: 40014645	32mA – 6.3A, 8A*, 10A*
	License: 40016647	15A*
		32mA – 15A

*Approval for cartridge versions only

Description

5x20mm 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

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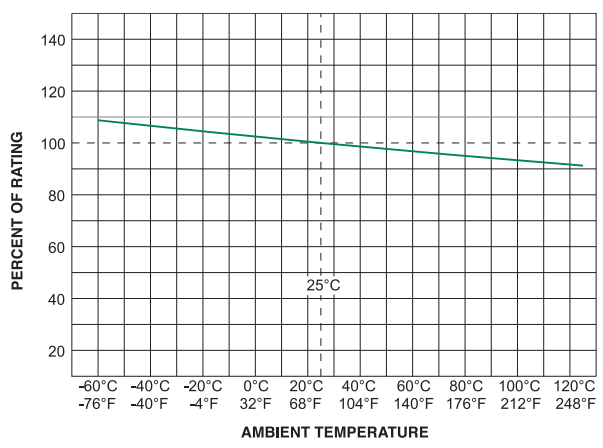
Electrical Characteristic Specifications by Item

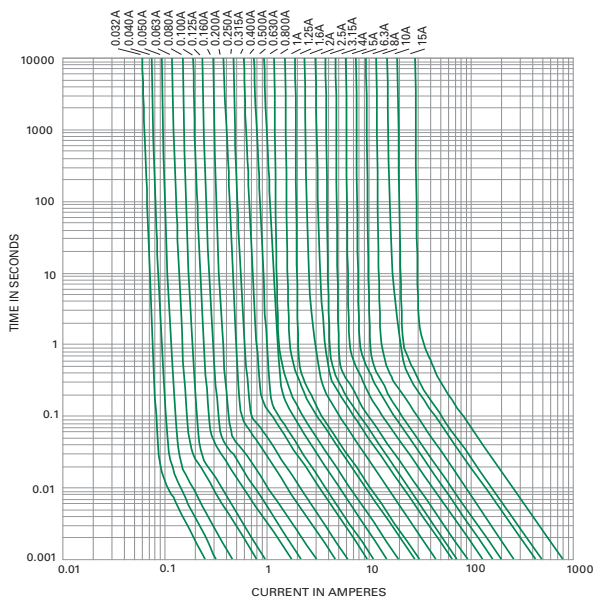
Amp Code	Amp Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I^2t (A^2 sec)	Nominal Voltage Drop at Rated Current (mV)	Nominal Power Dissipation At Rated Current (W)	Agency Approvals							
.032	0.032	250		262.2000	0.00006	10000	1.6	x	x		x	x	x	x	x
.040	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
.500	0.5	250		0.2065	0.21500	1000	1.6	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
.800	0.8	250		0.1203	0.85000	240	1.6	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
1.25	1.25	250		0.0701	2.23000	200	1.6	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
002.	2	250		0.0416	5.73000	170	1.6	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
3.15	3.15	250		0.0224	17.72000	150	2.5	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
005.	5	250	50A@250Vac	0.0137	42.79500	130	2.5	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
008.	8	250	80A@250Vac	0.0068	198.16000	130	4	x		x				x	x*
010.	10	250	100A@250Vac	0.0063	217.63500	130	4	x		x				x	x*
015.	15	250	150A@250Vac	0.0040	607.13500	130	4			x				x	x*

* Approval for cartidge versions only.

Temperature Rerating Curve



Average Time Current Curves



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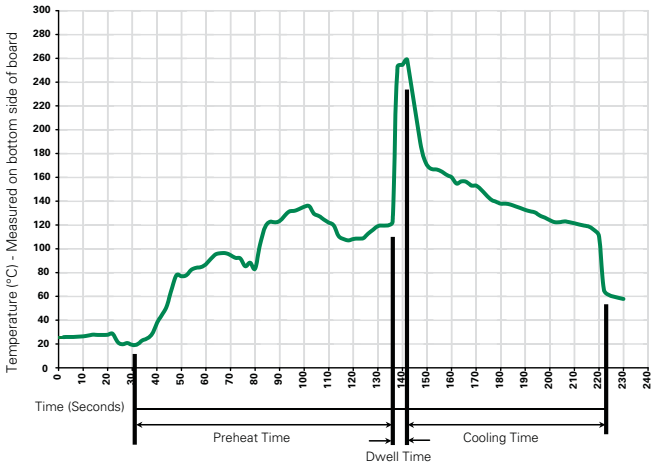
Soldering Parameters - Wave Soldering



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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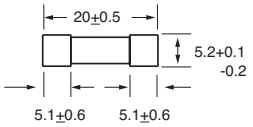
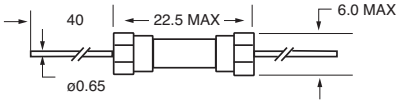
Dimensions

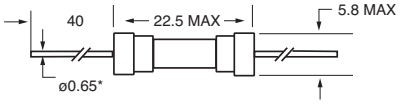
0217 000P



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 mm dia 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=52mm (2.062")
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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