217 Series
5 × 20 mm, Fast-acting Fuse

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

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/Certificate Number	Ampere Range
	Cartridge: NBK090205-E10480A NBK120802-E10480C Leaded: NBK090205-E10480B NBK120802-E10480D	 1A – 5A 6.3A – 15A 1A – 5A 6.3A – 15A
	2020970207000064	0.032A – 6.3A
	SU05001-3004 SU05001-2005 SU05001-2006 SU05001-2007	0.032A-0.040A 0.050A-0.315A 0.400A-6.3A 8A-10A
	E10480	0.032A – 10A
	29862	0.032A – 6.3A
	SE-S-2100014	0.032A – 6.3A
	40014645	0.032A – 6.3A, 8A*, 10A*
	40016647	15A*
	KM41462	0.040A – 6.3A
	N/A	0.032A – 15A

*Approval for cartridge versions only

Electrical Characteristics for Series

% of Ampere Rating	Ampere Rating	Opening Time
150%	0.032A–0.100A	60 minutes, Minimum
	0.125A-6.3A	60 minutes, Minimum
	8A-15A	30 minutes, Minimum
210%	0.032A-0.100A	30 minutes, Maximum
	0.125A-6.3A	30 minutes, Maximum
	8A-15A	30 minutes, Maximum
275%	0.032A-0.100A	0.01 sec., Min.; .5 sec. Max.
	0.125A-6.3A	0.05 sec., Min.; 2 sec. Max.
	8A-15A	0.05 sec., Min.; 2 sec. Max.
400%	0.032A-0.100A	.003 sec., Min.; 0.1 sec.. Max.
	0.125A-6.3A	.01 sec., Min.; 0.3 sec. Max.
	8A-15A	.01 sec., Min.; 0.4 sec. Max.
1000%	0.032A-0.100A	.02 second, Maximum
	0.125A-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)	Maximum Voltage Drop at Rated Current (mV)	Maximum Power Dissipation At 1.5In(W)	Agency Approvals								
.032	0.032	250	35A @ 250VAC	262.2000	0.00015	10000	1.6	-	x	x	-	x	x	x	x	x
.04	0.04	250		183.1500	0.00008	8000	1.6	-	x	x	-	x	x	x	x	x
.05	0.05	250		15.2000	0.00049	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
.08	0.08	250		7.8900	0.00132	4000	1.6	-	x	x	-	x	x	x	x	x
.1	0.1	250		5.6965	0.0026	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
.16	0.16	250		2.5250	0.01	2000	1.6	-	x	x	-	x	x	x	x	x
.2	0.2	250		1.7000	0.02	1700	1.6	-	x	x	-	x	x	x	x	x
.25	0.25	250		1.2325	0.04	1400	1.6	-	x	x	-	x	x	x	x	x
.315	0.315	250		0.8800	0.11	1300	1.6	-	x	x	-	x	x	x	x	x
.4	0.4	250		0.2770	0.125	1200	1.6	x	x	x	-	x	x	x	x	x
.5	0.5	250		0.2065	0.215	1000	1.6	x	x	x	-	x	x	x	x	x
.63	0.63	250		0.1900	0.41	650	1.6	x	x	x	-	x	x	x	x	x
.8	0.8	250		0.1203	0.85	240	1.6	x	x	x	-	x	x	x	x	x
1.	1	250		0.0964	1.045	200	1.6	x	x	x	x	x	x	x	x	x
1.25	1.25	250		0.0701	2.23	200	1.6	x	x	x	x	x	x	x	x	x
1.6	1.6	250		0.0528	4.615	190	1.6	x	x	x	x	x	x	x	x	x
2.	2	250	35A@250VAC 70A@60VDC 70A@75VDC	0.0416	5.73	170	1.6	x	x	x	x	x	x	x	x	x
2.5	2.5	250		0.0334	9.46	170	1.6	x	x	x	x	x	x	x	x	x
3.15	3.15	250		0.0224	17.72	150	2.5	x	x	x	x	x	x	x	x	x
4.	4	250	40A@250VAC 70A@60VDC	0.0165	29.165	130	2.5	x	x	x	x	x	x	x	x	x
5.	5	250	50A@250VAC 70A@60VDC	0.0137	42.795	130	2.5	x	x	x	x	x	x	x	x	x
6.3	6.3	250	63A@250VAC 70A@60VDC	0.0095	62.465	130	2.5	x	x	x	x	x	x	x	x	x
8.	8	250	80A @ 250VAC	0.0068	198.16	130	4	-	x	-	x	x	-	-	x	x*
10.	10	250	100A @ 250VAC	0.0063	217.635	130	4	-	x	-	x	x	-	-	x	x*
15.	15	250	150A @ 250VAC	0.0040	607.135	130	4	-	-	-	x	-	-	-	x	x*

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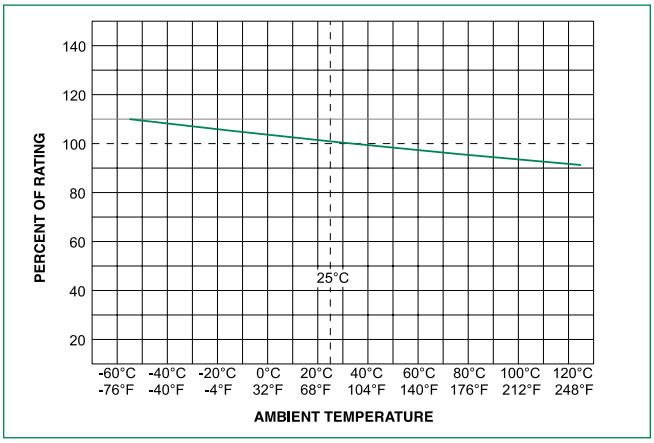
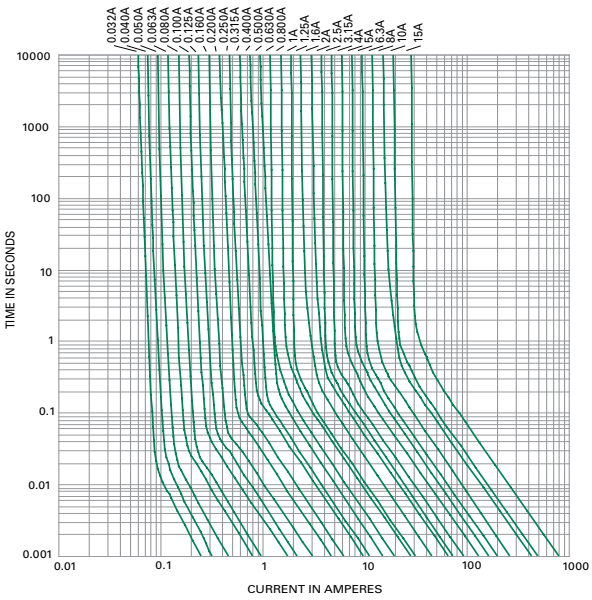
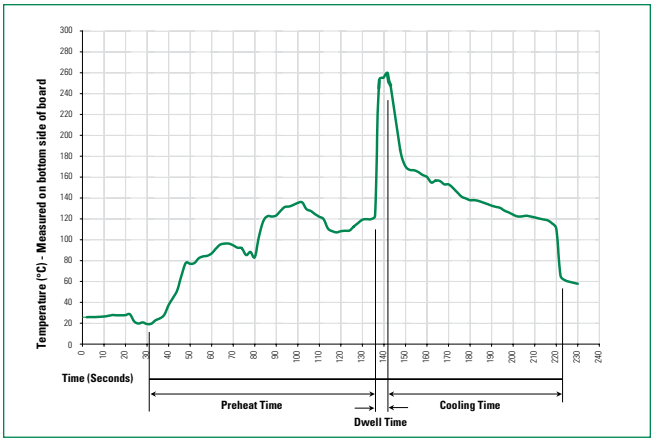
Temperature Re-rating Curve



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.

Product Characteristics

Material	Body: Glass 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	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-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

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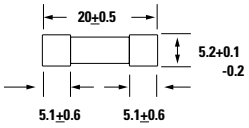
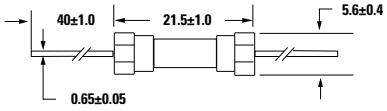
Dimensions

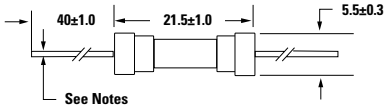
0217 000P



0217.032 XEP to 0217.315 XEP



0217.400 XEP to 0217015 XEP



All dimensions in mm

Notes:
* 0.032A-6.3A have 0.65±0.05 diameter lead
* 8A-15A 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")
PGT With Color Code Bulk	N/A	1000	MXG	N/A
Cartridge With Color Code 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	20
	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 factory for applications greater than the max voltage and amperage shown.