

# Axial Lead & Cartridge Fuses

5x20 mm > Fast-Acting > 217 Series

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



### 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.

### Agency Approvals

Agency	Agency File Number	Ampere Range
	Cartridge: NBK090205-E10480A NBK120802-E10480C Leaded: NBK090205-E10480B NBK120802-E10480D	1A – 5A 6.3A – 15A
	2002010207007600	0.032A – 6.3A
	SU05001-3004 SU05001-2005 SU05001-2006 SU05001-2007	0.032A – 40mA 50mA – 0.0315A 0.0400A – 6.3A 8A & 10A
	E10480	0.032A – 10A
	29862	0.032A – 6.3A
	1402480	0.032A – 6.3A
	40014645	0.032A – 6.3A, 8A*, 10A*
	40016647	15A*
	KM41462	0.0400A – 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–0.0100A	60 minutes, Minimum
	0.0125A-6.3A	60 minutes, Minimum
	8A-15A	30 minutes, Minimum
210%	0.032A-0.0100A	30 minutes, Maximum
	0.0125A-6.3A	30 minutes, Maximum
	8A-15A	30 minutes, Maximum
275%	0.032A-0.0100A	0.01 sec., Min.; .5 sec. Max.
	0.0125A-6.3A	0.05 sec., Min.; 2 sec. Max.
	8A-15A	0.05 sec., Min.; 2 sec. Max.
400%	0.032A-0.0100A	.003 sec., Min.; 0.1 sec. Max.
	0.0125A-6.3A	.01 sec., Min.; 0.3 sec. Max.
	8A-15A	.01 sec., Min.; 0.4 sec. Max.
1000%	0.032A-0.0100A	.02 second, Maximum
	0.0125A-6.3A	.02 second, Maximum
	8A-15A	.04 second, Maximum

### Additional Information



Datasheet



Resources



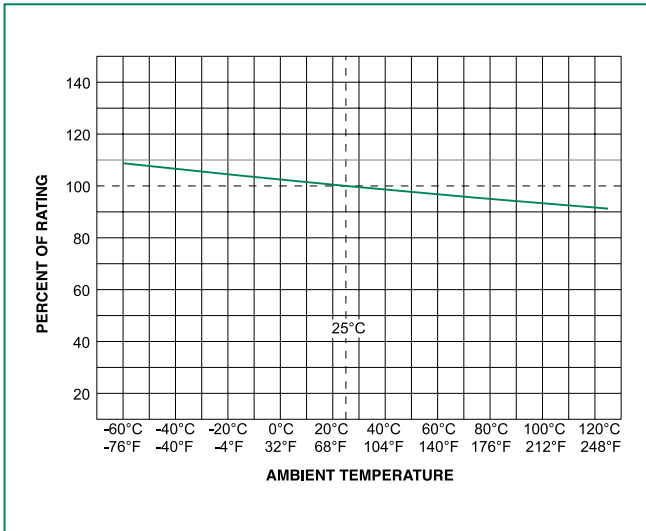
Samples

## Electrical Characteristic Specifications by Item

Amp Code	Amp Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Maximum Voltage Drop at Rated Current (mV)	Maximum Power Dissipation At 1.5In(W)	Agency Approvals									
								UL	CCC	CSA	IEC	UL	UL	UL	UL	UL	UL
.032	0.032	250	35A@250Vac	262.2000	0.00015	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	0.00049	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	
.080	0.08	250		7.8900	0.00132	4000	1.6		x	x		x	x	x	x	x	
.100	0.1	250		5.6965	0.00260	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		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	
016	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		
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	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	x*		

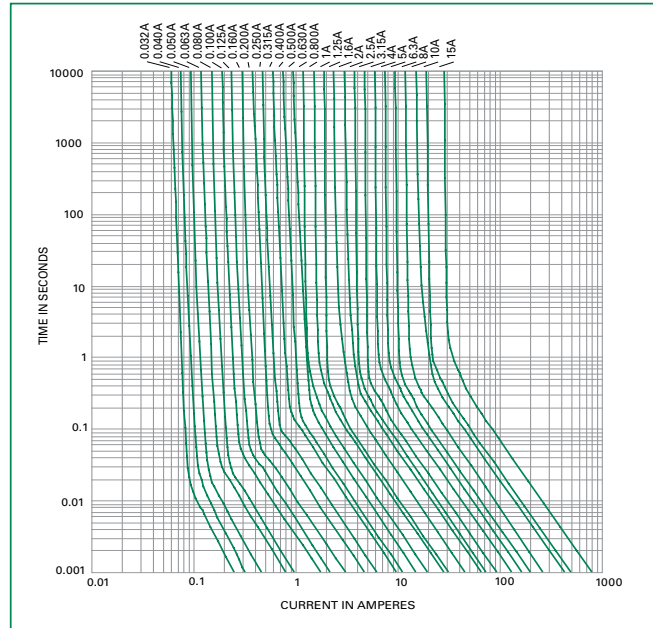
\* Approval for cartridge versions only.

## Temperature Re-rating Curve

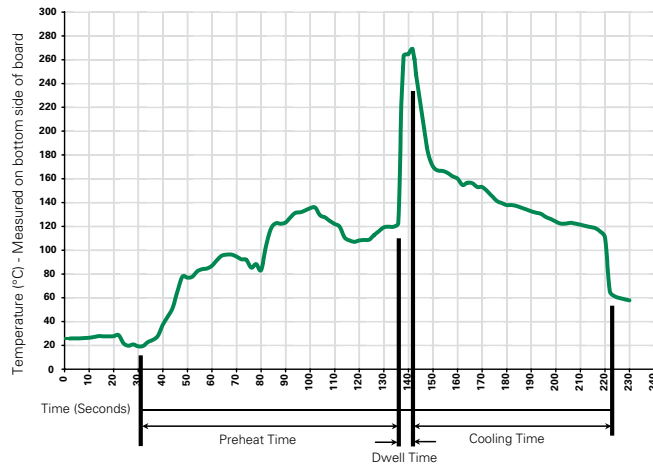


Note:  
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

## Average Time Current Curves



### Soldering Parameters - Wave Soldering



### Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation
<b>Preheat:</b> (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
<b>Solder Pot Temperature:</b>	260°C Maximum
<b>Solder Dwell Time:</b>	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.**

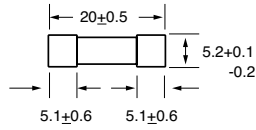
### Product Characteristics

<b>Material</b>	Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper
<b>Terminal Strength</b>	MIL-STD-202, Method 211, Test Condition A
<b>Solderability</b>	MIL-STD-202 method 208
<b>Product Marking</b>	Cap1: Brand logo, current and voltage ratings Cap2: Agency approval marks
<b>Packaging</b>	Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel)

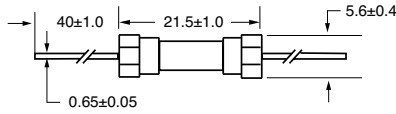
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temperature (40°C) for 240 hours.
<b>Salt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

**Dimensions**

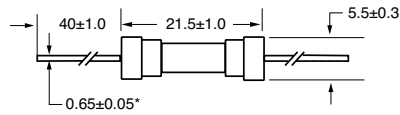
0217 000P



0217.032 XEP  
to  
0217.315 XEP



0217.400 XEP  
to  
0217015 XEP

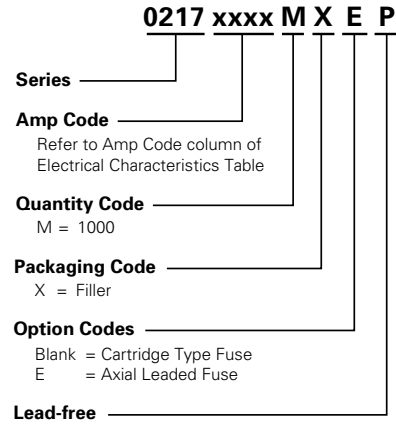


All dimensions in mm

Notes:

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

**Part Numbering System**



**Packaging**

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
<b>217 Series</b>				
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