

# 217 Series

## 5 × 20 mm, Fast-acting Fuse



### Description

5x20mm fast-acting glass body cartridge fuse designed to IEC specification.

### Features & Benefits

- 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.

### Additional Information



Resources



Accessories



Samples

### Agency Approvals

Agency	Agency File/Certificate Number	Ampere Range
PS	Cartridge: NBK090205-E10480A NBK120802-E10480C	1A – 5A 6.3A – 15A
	Leaded: NBK090205-E10480B NBK120802-E10480D	1A – 5A 6.3A – 15A
	2020970207000064	0.032A – 6.3A
CCC	SU05001-3004 SU05001-2005 SU05001-2006 SU05001-2007	0.032A-0.040A 0.050A-0.315A 0.400A-6.3A 8A-10A
cULus	E10480	0.032A – 10A
SP	29862	0.032A – 6.3A
S	SE-S-2100014	0.032A – 6.3A
D'E	40014645	0.032A – 6.3A, 8A*, 10A*
VDE	40016647	15A*
IEC	KM41462	0.040A – 6.3A
CE	N/A	0.032A – 15A
UKCA	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

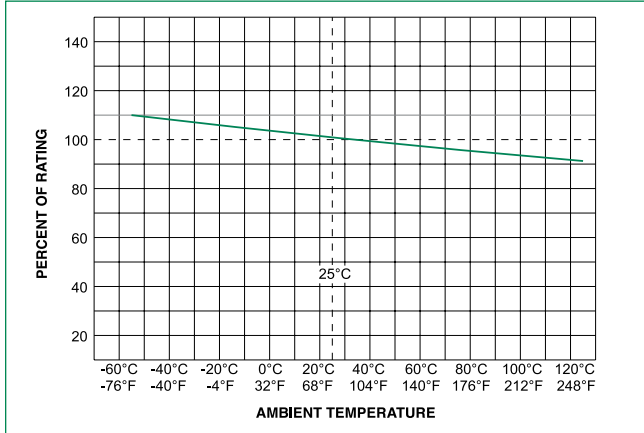
Amp Code	Amp Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Maximum Voltage Drop at Rated Current (mV)	Maximum Power Dissipation At 1.5I <sub>n</sub> (W)	Agency Approvals									
								UK CA	UL	CCC	PS E	RU	SF	S	CE	DE	
.032	0.032	250	35A @ 250VAC	262.2000	0.00015	10000	1.6	x	-	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	x
.050	0.05	250		15.2000	0.00049	7000	1.6	x	-	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	x
.080	0.08	250		7.8900	0.00132	4000	1.6	x	-	x	x	-	x	x	x	x	x
.100	0.1	250		5.6965	0.0026	3500	1.6	x	-	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	x
.160	0.16	250		2.5250	0.01	2000	1.6	x	-	x	x	-	x	x	x	x	x
.200	0.2	250		1.7000	0.02	1700	1.6	x	-	x	x	-	x	x	x	x	x
.250	0.25	250		1.2325	0.04	1400	1.6	x	-	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	x
.400	0.4	250		0.2770	0.125	1200	1.6	x	x	x	x	-	x	x	x	x	x
.500	0.5	250		0.2065	0.215	1000	1.6	x	x	x	x	-	x	x	x	x	x
.630	0.63	250		0.1900	0.41	650	1.6	x	x	x	x	-	x	x	x	x	x
.800	0.8	250		0.1203	0.85	240	1.6	x	x	x	x	-	x	x	x	x	x
1.00	1	250		0.0964	1.045	200	1.6	x	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	x
1.60	1.6	250		0.0528	4.615	190	1.6	x	x	x	x	x	x	x	x	x	x
2.00	2	250		35A@250VAC	0.0416	5.73	170	1.6	x	x	x	x	x	x	x	x	x
2.50	2.5	250	70A@60VDC	0.0334	9.46	170	1.6	x	x	x	x	x	x	x	x	x	
3.15	3.15	250	70A@75VDC	0.0224	17.72	150	2.5	x	x	x	x	x	x	x	x	x	
4.00	4	250	40A@250VAC 70A@60VDC	0.0165	29.165	130	2.5	x	x	x	x	x	x	x	x	x	
5.00	5	250	50A@250VAC 70A@60VDC	0.0137	42.795	130	2.5	x	x	x	x	x	x	x	x	x	
6.30	6.3	250	63A@250VAC 70A@60VDC	0.0095	62.465	130	2.5	x	x	x	x	x	x	x	x	x	
8.00	8	250	80A @ 250VAC	0.0068	198.16	130	4	x	-	x	-	x	x	-	-	x	x*
10.0	10	250	100A @ 250VAC	0.0063	217.635	130	4	x	-	x	-	x	x	-	-	x	x*
15.0	15	250	150A @ 250VAC	0.0040	607.135	130	4	x	-	-	-	x	-	-	-	x	x*

\* Approval for cartridge versions only.

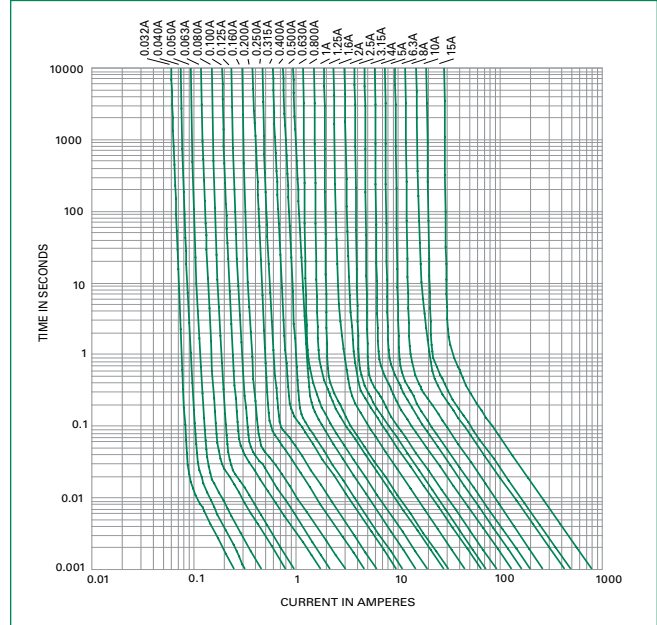
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## 5 × 20 mm, Fast-acting Fuse

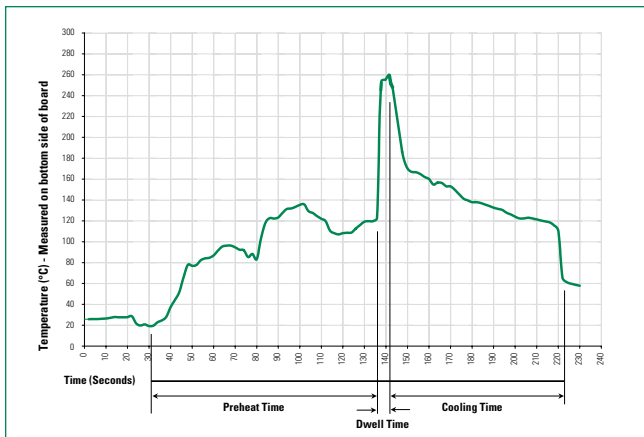
Temperature Re-rating Curve



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

<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)

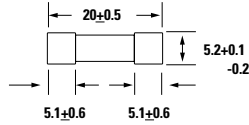
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temperature (40°C) for 240 hours.
<b>Salt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

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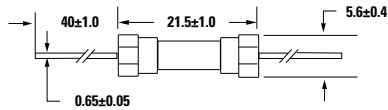
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### Dimensions

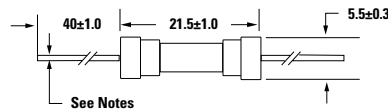
0217 000P



0217.032 XEP  
to  
0217.315 XEP



0217.400 XEP  
to  
0217015 XEP

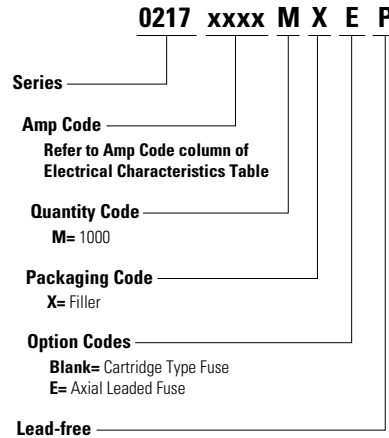


All dimensions in mm

**Notes:**

- \* 0.032A-6.3A have 0.65±0.05 diameter lead
- \* 8A-15A have 0.8±0.05 diameter lead

### Part Numbering System



### 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")
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	<a href="#">345_ISF</a>	Panel Mount Shock-Safe Fuseholder	250	20
	<a href="#">345</a>	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options		20
	<a href="#">830</a>	PC Mount Shock-Safe Miniature Fuseholder		16
Block	<a href="#">520</a>	Metric OMNI-BLOK® Fuse Block		10
	<a href="#">646</a>	PC Mount Miniature Fuse Block		6.3
	<a href="#">658</a>	Surface Mount Miniature Fuse Block		10
Clip	<a href="#">520_W</a>	PC Mount Miniature Fuse Clip		6.3
	<a href="#">111</a>	PC Board Mount Fuse Clip		10
	<a href="#">445</a>	PC Board Mount Fuse Clip	10	

**Notes:**

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

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