

# 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

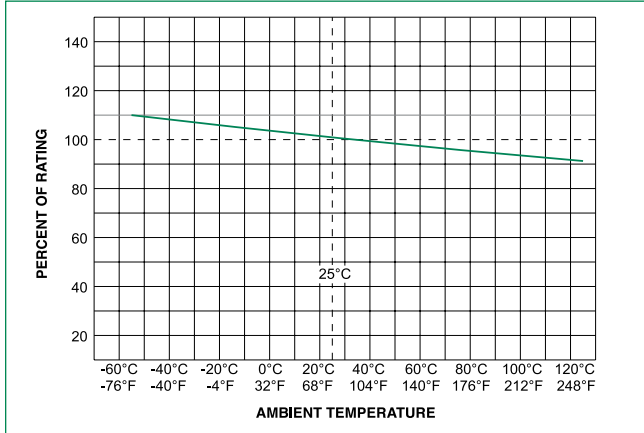
Amp Code	Amp Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Maximum Voltage Drop at Rated Current (mV)	Maximum Power Dissipation At 1.5I <sub>n</sub> (W)	Agency Approvals									
								UK CA	UL	CCC	PS E	RU	SF	S	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		0.0416	5.73	170	1.6	x	x	x	x	x	x	x	x	x	x
2.50	2.5	250		0.0334	9.46	170	1.6	x	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	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.

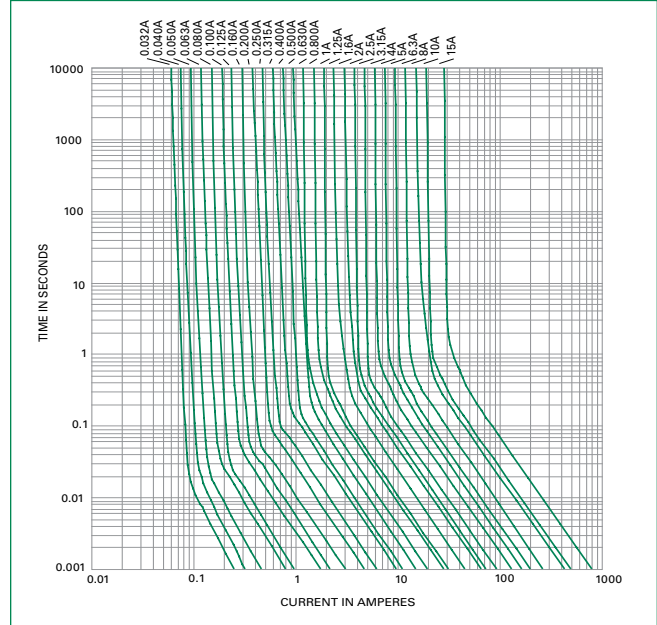
# 217 Series

## 5 × 20 mm, Fast-acting Fuse

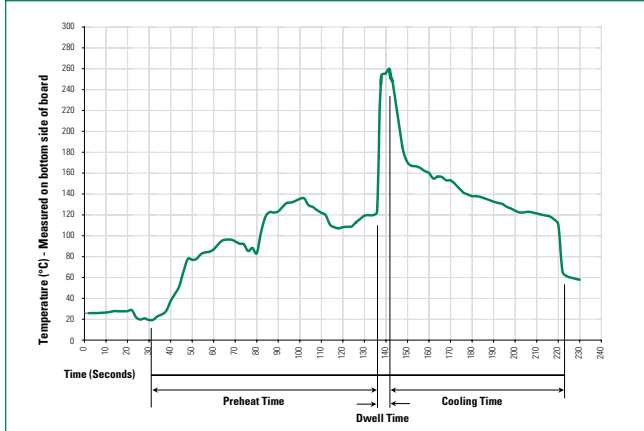
Temperature Re-rating Curve



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)

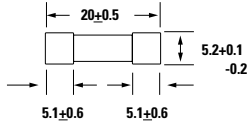
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temperature (40°C) for 240 hours.
<b>Salt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

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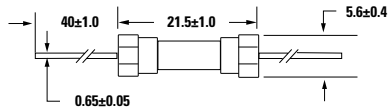
## 5 × 20 mm, Fast-acting Fuse

### Dimensions

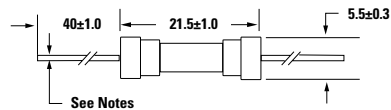
0217 000P



0217.032 XEP  
to  
0217.315 XEP



0217.400 XEP  
to  
0217015 XEP

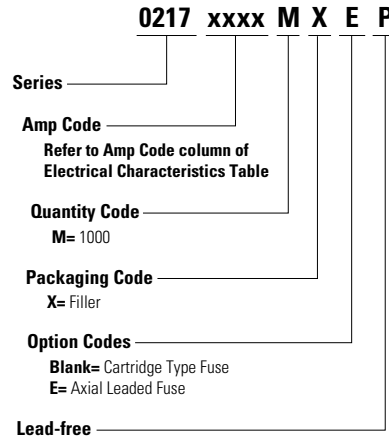


All dimensions in mm

**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:**

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.

**Disclaimer Notice** - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at <https://www.littelfuse.com/legal/disclaimers/product-disclaimer.aspx>.