

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

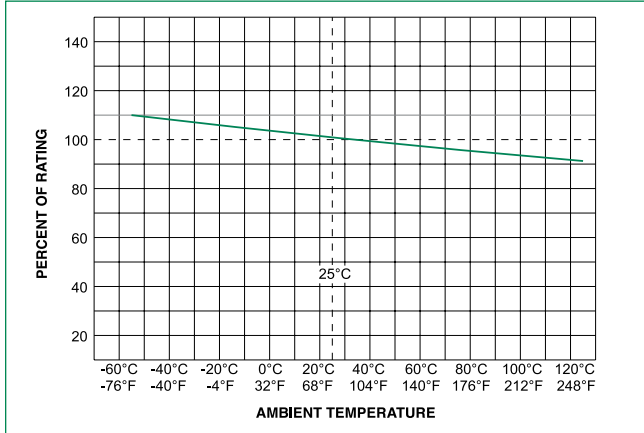
Amp Code	Amp Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² sec)	Maximum Voltage Drop at Rated Current (mV)	Maximum Power Dissipation At 1.5I _n (W)	Agency Approvals									
								UK CA	UL	CCC	PS E	RU	SF	S	CE	DE	
.032	0.032	250	35A @ 250VAC	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.

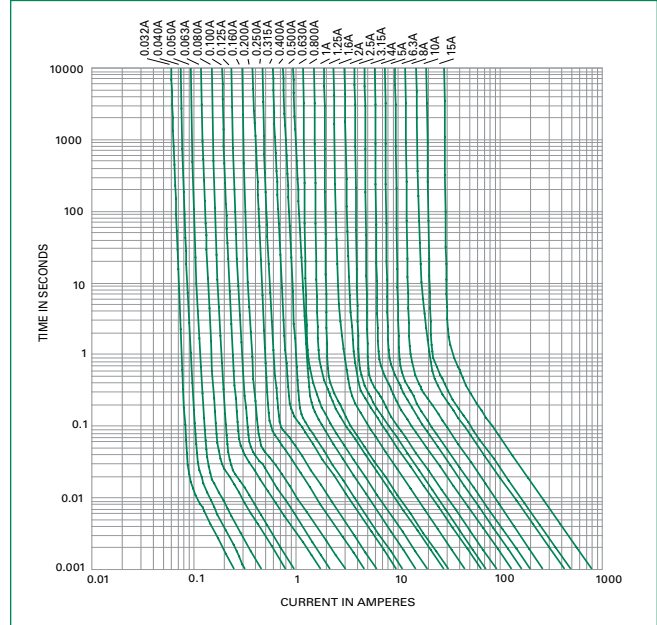
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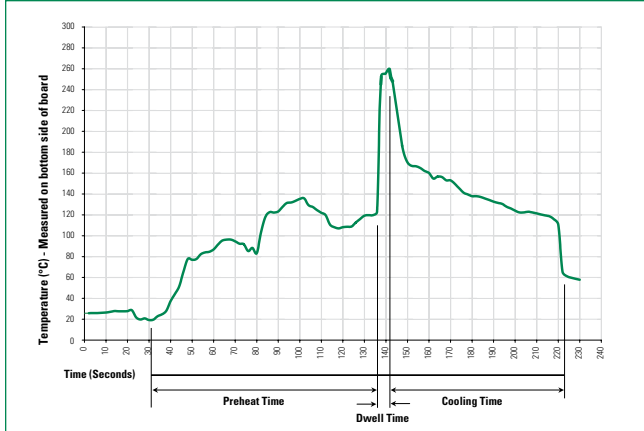
Temperature Re-rating Curve



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)

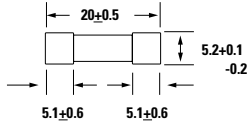
Operating Temperature	-55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temperature (40°C) for 240 hours.
Salt Spray	MIL-STD-202, Method 101,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

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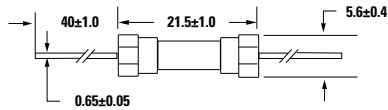
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Dimensions

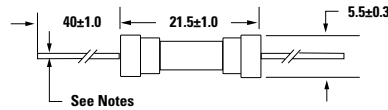
0217 000P



0217.032 XEP
to
0217.315 XEP



0217.400 XEP
to
0217015 XEP

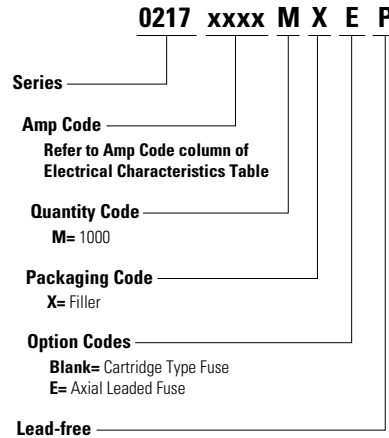


All dimensions in mm

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
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:

- 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.

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>.