Axial Lead & Cartridge Fuses

5×20 mm > Time-Lag > 215 Series

215 Series, 5×20 mm, Time-Lag Fuse



Agency Approvals

Agency	Agency File Number	Ampere Range
PS E	Cartridge: NBK080205-E10480A NBK250702-E10480E NBK100408-JP1021A Leaded: NBK080205-E10480B NBK250702-E10480F NBK100408-JP1021B	1A – 5A 6.3A – 15A 16A – 20A 1A – 5A 6.3A – 15A 16A – 20A
CCC	2005010207145714	1A – 6.3A
CQC	CQC07012021808	8A – 10A
KC	SU05001-2011B SU05001-10001 SU05001-10002 SU05001-2012B	1A – 2.5A 3.15A – 6.3A 8A 4A - 10A
cULus	E10480	0.125A - 20A
CSA	29862	0.5A – 12A
S	1517218	0.125A-12A 15A*, 16A*, 20A*
VDE	40013521	0.2A – 8A *10A
VDE	40016610	*12A
KTL	KM41462	0.200A – 10A
TÜV	J50258578	16A/20A
CE	N/A	0.125A – 20A

* Approved for cartridge versions only

Description

5×20mm Time-Lag surge withstand ceramic body cartridge fuse designed to IEC specification

Features

- Designed to International (IEC) Standards for use globally
- High breaking capacity
- Meets the IEC 60127-2, Sheet 5 specification for Time-Lag fuses
- 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

Datasheet | Resources | Samples

Electrical Characteristics for Series

% of Ampere Rating	Ampere Rating	Opening Time
150%	0.125A – 0.800A	60 minutes, Minimum
	1A – 3.15A	60 minutes, Minimum
	4A – 6.3A	60 minutes, Minimum
	8A – 20A	30 minutes, Minimum
210%	0.125A – 0.800A	30 minutes, Maximum
	1A – 3.15A	30 minutes, Maximum
	4A – 6.3A	30 minutes, Maximum
	8A – 20A	30 minutes, Maximum
275%	0.125A – 0.800A	.25 sec. Min.; 80 secs. Max.
	1A – 3.15A	.75 sec. Min.; 80 secs. Max.
	4A – 6.3A	.75 sec. Min.; 80 secs. Max.
	8A – 20A	.75 sec. Min.; 80 secs. Max.
400%	0.125A – 0.800A	.05 sec., Min.; 5 secs. Max.
	1A – 3.15A	.095 sec., Min.; 5 secs. Max.
	4A – 6.3A	.150 sec., Min.; 5 secs. Max.
	8A – 20A	.150 sec., Min.; 5 secs. Max.
1000%	0.125A – 0.800A	.005 sec., Min.; .150 sec. Max.
	1A – 3.15A	.010 sec., Min.; .150 sec. Max.
	4A – 6.3A	.010 sec., Min.; .150 sec. Max.
	8A – 20A	.010 sec., Min.; .150 sec. Max.

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Application testing is strongly recommended. Specifications are subject to change without notice.
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Littelfuse®
Expertise Applied | Answers Delivered

Electrical Characteristic Specifications by Item

Amp Code	Amp Rating	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											
.125	0.125	250	1500 A @ 250 VAC	11.4455	0.0330	2600	1.6					x		x					x
.160	0.16	250		7.1000	0.0465	2400	1.6					x		x					x
.200	0.2	250		1.8400	0.340	2100	1.6	x				x		x	x				x
.250	0.25	250		1.2400	0.545	1500	1.6	x				x		x	x				x
.315	0.315	250		0.8800	0.975	1100	1.6	x				x		x	x				x
.400	0.4	250		0.5825	1.325	1000	1.6	x				x		x	x				x
.500	0.5	250		1.1675	0.420	850	1.6	x				x	x	x	x				x
.630	0.63	250		0.7200	0.635	650	1.6	x				x	x	x	x				x
.800	0.8	250		0.4675	0.975	500	1.6	x				x	x	x	x				x
001.	1	250		0.1515	1.520	350	2.5	x	x	x	x	x	x	x	x				x
1.25	1.25	250		0.1074	3.200	300	2.5	x	x	x	x	x	x	x	x				x
01.6	1.6	250		0.0707	6.830	200	2.5	x	x	x	x	x	x	x	x				x
002.	2	250		0.0566	11.680	190	2.5	x	x	x	x	x	x	x	x				x
02.5	2.5	250		0.0386	22.290	180	2.5	x	x	x	x	x	x	x	x				x
3.15	3.15	250		0.0283	43.255	140	4	x	x	x	x	x	x	x	x				x
004.	4	250		0.0185	46.960	100	4	x	x	x	x	x	x	x	x				x
005.	5	250		0.0153	66.095	100	4	x	x	x	x	x	x	x	x				x
06.3	6.3	250		0.0108	128.750	100	4	x	x	x	x	x	x	x	x				x
008.	8	250		0.0092	209.880	100	4	x	x		x	x	x	x	x		x		x
010.	10	250		0.0066	333.565	100	4	x	x		x	x	x	x	x*		x		x
012.	12	250		0.0061	515.500	100	4		x			x	x	x		x*			x
015.	15	250	500 A @ 250Vac	0.0033	1237.0	N/A**	N/A**		x			x		x*					x
016.	16	250		0.0031	1408.0	N/A**	N/A**		x			x		x*				x	x
020.	20	250	400 A @ 250Vac	0.0023	2600.0	N/A**	N/A**		x			x		x*				x	x

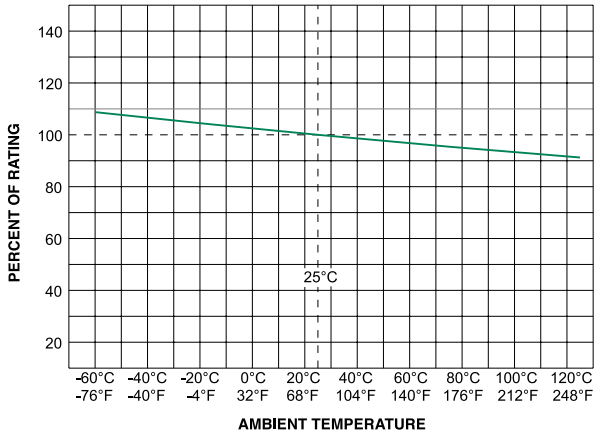
X* Approval for cartridge versions only

N/A** - Please contact Littelfuse for details on these parameters

1A to 2A have an IR : 100A@500VAC, 4A to 6-3A have the IR : 100A@305 VAC and 1000A@72VDC

I^2t test at 10x rated current.

Temperature Re-rating Curve



Product Characteristics

Materials	**Body:** Ceramic **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	**Cap 1:** Brand logo, current and voltage ratings **Cap 2:** Agency approval markings
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 temp (40°C) for 240 hours)
Salt Spray	MIL-STD-202, Method 101, Test Condition B

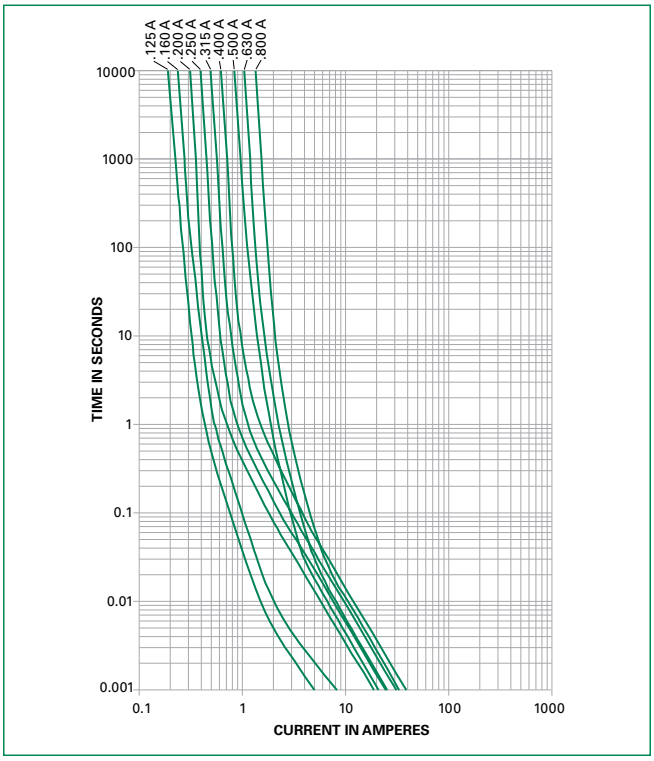
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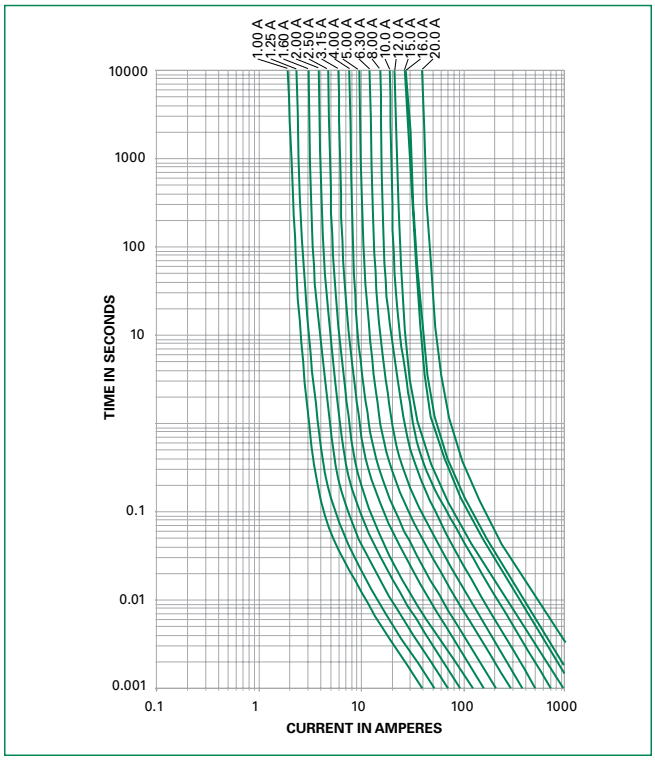
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Average Time Current Curves

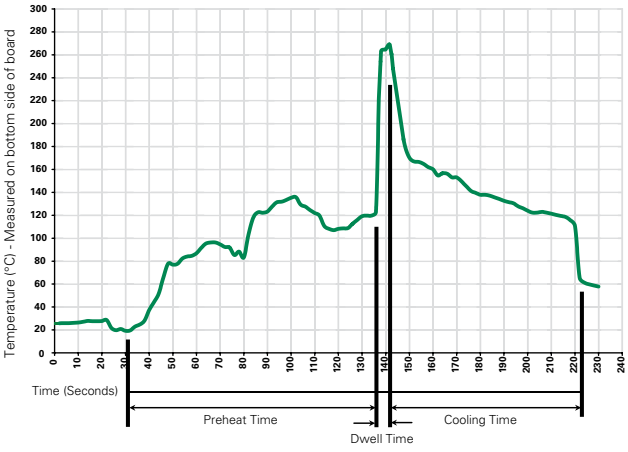
T-C Curves for 125mA to 800mA only



T-C Curves for 1A to 20A only



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

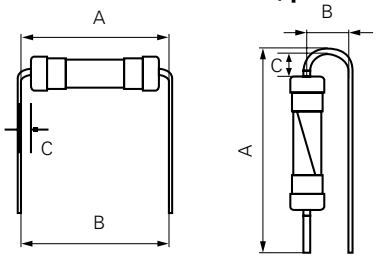
Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100° C
Temperature Maximum:	150° C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	260° C Maximum
Solder Dwell Time:	2-5 seconds

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.

Different values of A and B available, please contact the Littelfuse sales representative in your region:



For the pigtailed fuse, please follow the recommendations below for axial lead forming and mounting into PCB:

Lead forming:

The distance C between cap flat surface and axial lead shall be greater than 1.0 mm.

PCB mounting:

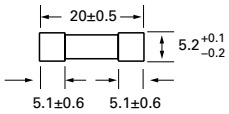
The distance between PCB and fuse cap is recommended to be a minimum of 1.5 mm.

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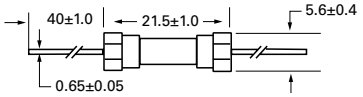
Dimensions

All dimensions in mm

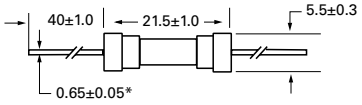
0215.125P
to
0215020P



0215.125XEP
to
0215.800XEP



0215001.XEP
to
0215020.XEP



Notes:
* Ratings above 6.3 A have 0.8 ± 0.05 diameter lead;
* Ratings above 12 A have 1.2 ± 0.05 diameter lead.

Part Numbering System

0215 xxxx M X E/G P

Series

Amp Code
Refer to Amp Code column of Electrical Characteristics Table

Quantity Code
M = 1000
H = 100

Packaging Code
X = Filler

Option Codes
Blank : Cartidge Type Fuse
E : Axial Lead Fuse
G : Color Coding

Lead-free

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
215 Series				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	1000	MXE	N/A
Reel and Tape	N/A	1000	MRET1	T1=53mm (2.087")
Bulk and Color Coding	N/A	1000	MXG	N/A
Bulk	N/A	1000	MXB	N/A
Bulk	N/A	100	HX	N/A

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