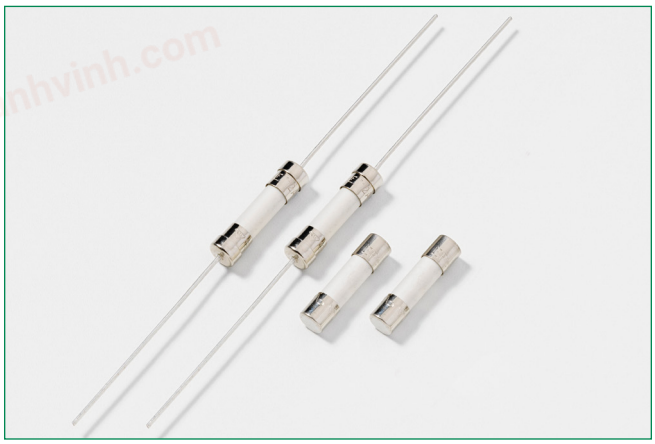
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215 Series
5×20 mm, Time-Lag Fuse



Description

The 215 Series is a 5x20mm Time-lag, surge-withstand, ceramic body cartridge fuse that is designed to IEC specifications.

Features

- Conforms to EN/IEC/K/J 60127-1 and EN/IEC/K/J 60127-2
- High breaking capacity
- Meets Standard Sheet 5 of IEC 60127-2 as a Time-Lag fuse
- RoHS compliant and lead-free
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Conforms to GB 9364.1 and GB 9364.2
- CE Mark indicates compliance with Low-Voltage and RoHS Directives.

Additional Information

Resources | Accessories | Samples

Applications

Used as supplementary protection in appliance or utilization equipment to provide individual protection for components or internal circuits.

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	0.25 sec. Min.; 80 secs. Max.
	1A – 3.15A	0.75 sec. Min.; 80 secs. Max.
	4A – 6.3A	0.75 sec. Min.; 80 secs. Max.
	8A – 20A	0.75 sec. Min.; 80 secs. Max.
400%	0.125A – 0.800A	0.05 sec., Min.; 5 secs. Max.
	1A – 3.15A	0.095 sec., Min.; 5 secs. Max.
	4A – 6.3A	0.150 sec., Min.; 5 secs. Max.
	8A – 20A	0.150 sec., Min.; 5 secs. Max.
1000%	0.125A – 0.800A	0.005 sec., Min.; .150 sec. Max.
	1A – 3.15A	0.010 sec., Min.; .150 sec. Max.
	4A – 6.3A	0.010 sec., Min.; .150 sec. Max.
	8A – 20A	0.010 sec., Min.; .150 sec. Max.

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	2020970207000067	0.125A-10A
K	SU05001-2011B SU05001-10001 SU05001-10002 SU05001-2012B	1A – 2.5A 3.15A – 6.3A 8A 4A - 10A
c UL us	E10480	0.125A - 20A
CSA	29862	0.5A – 12A
S	SE-S-2101268	0.125A-12A 15A*, 16A*, 20A*
DVE	40013521	0.2A – 8A *10A
VDE	40016610	*12A
KTL	KM41462	0.200A – 10A
△	J50248091 J50258578	10A 16A, 20A
CE	N/A	0.125A – 20A

* Approved for cartridge versions only

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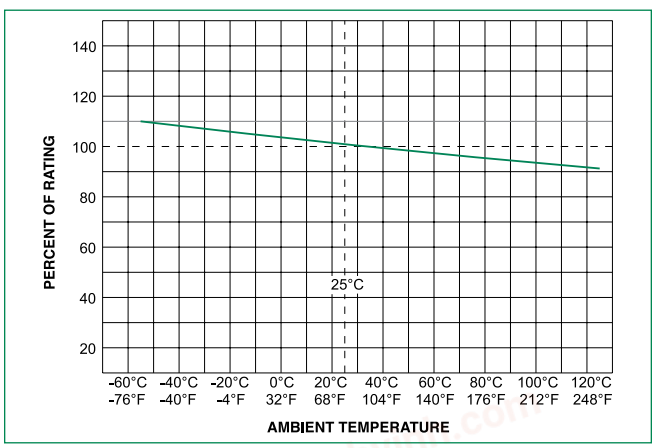
215 Series
5×20 mm, Time-Lag Fuse

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	-	-	-	x
.160	0.16	250		7.1000	0.0465	2400	1.6	-	-	x	-	x	-	x	-	-	-	x
.200	0.2	250		1.8400	0.340	2100	1.6	x	-	x	-	x	-	x	x	-	-	x
.250	0.25	250		1.2400	0.545	1500	1.6	x	-	x	-	x	-	x	x	-	-	x
.315	0.315	250		0.8800	0.975	1100	1.6	x	-	x	-	x	-	x	x	-	-	x
.400	0.4	250		0.5825	1.325	1000	1.6	x	-	x	-	x	-	x	x	-	-	x
.500	0.5	250		1.1675	0.420	850	1.6	x	-	x	-	x	x	x	x	-	-	x
.630	0.63	250		0.7200	0.635	650	1.6	x	-	x	-	x	x	x	x	-	-	x
.800	0.8	250		0.4675	0.975	500	1.6	x	-	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	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

* Approval for cartridge versions only
** Please contact Littelfuse for details on these parameters
+ Interrupting Rating may differ based on Agency Approval. See Agency Approval certificate for more details.
1A to 2A have an IR : 100A@500VAC, 4A to 6-3A have the IR : 100A@305 VAC and 1000A@72VDC
I2t test at 10x rated current.
10A have an IR:1000A@300Vac for cURus

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

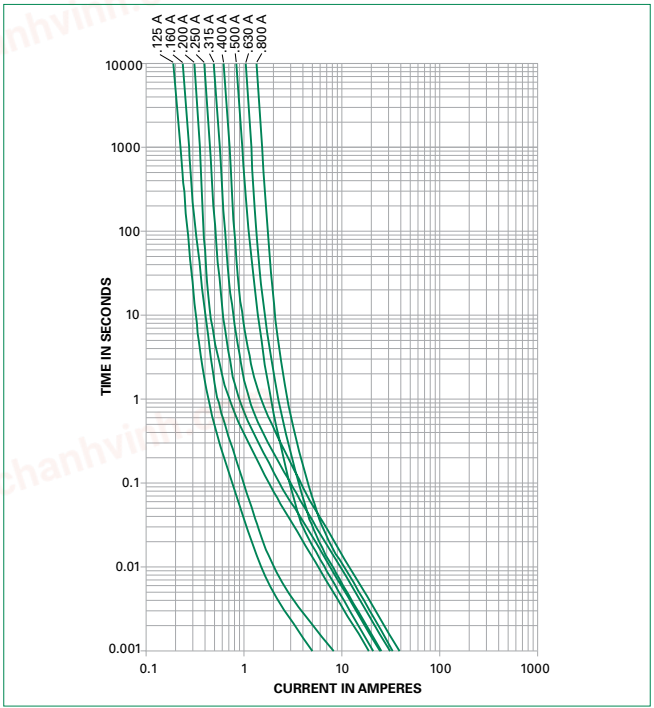
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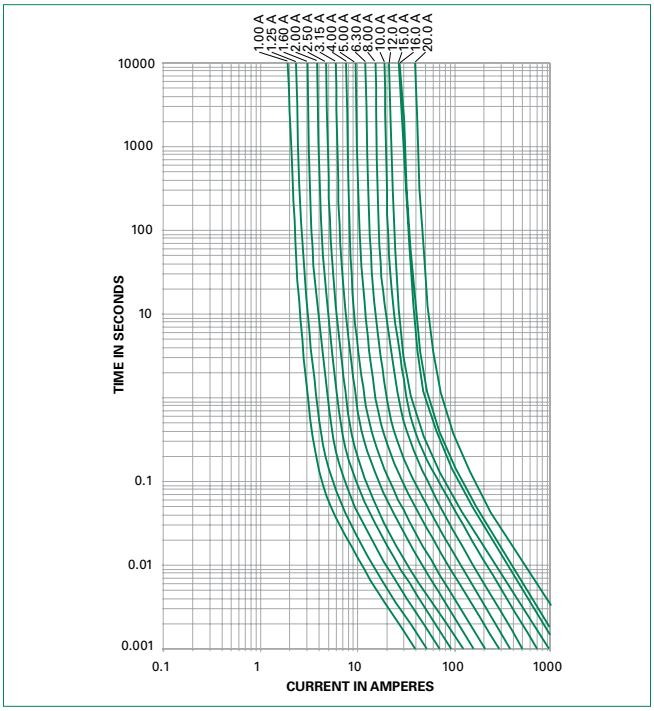
215 Series
5×20 mm, Time-Lag Fuse

Average Time Current Curves

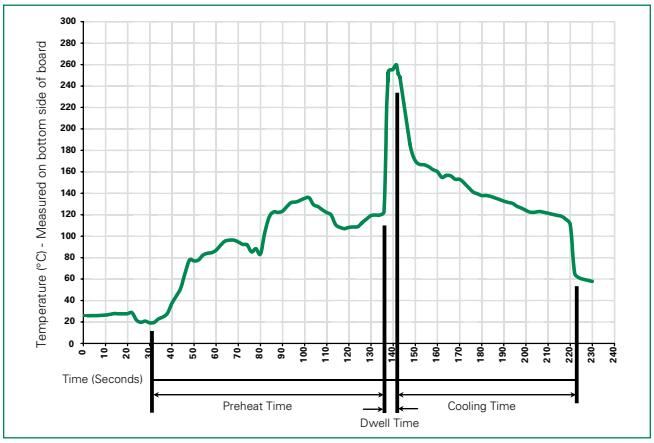
T-C Curves for 125mA to 800mA only



T-C Curves for 1A to 20A only



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

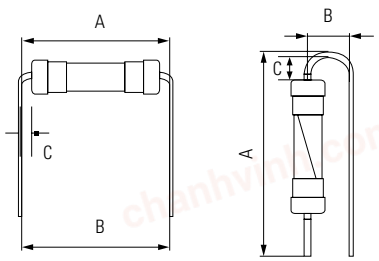
Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100° C
Temperature Maximum:	150° C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	260° C Maximum
Solder Dwell Time:	2-5 seconds

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.

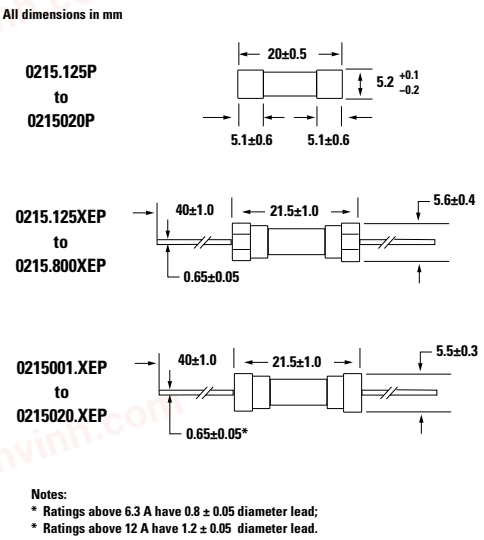
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215 Series
5×20 mm, Time-Lag Fuse

Dimensions

All dimensions in mm



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

Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
Holder	345_ISF	Panel Mount Shock-Safe Fuseholder	250	10
	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

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