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215SP Series, 5×20 mm, Time-Lag Fuse















Description

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

Features

- Designed to International (IEC) Standards for use globally
- High breaking capacity
- RoHS compliant and lead-free
- Meets the IEC 60127-2, Sheet 5 specification for Time-Lag Fuses

Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
PS	NBK080205-E10480B NBK250702-E10480F	1A – 5A 6.3A – 10A
Cec	CQC10012041490	1A – 6.3A
	SU05001-2011B SU05001-10001 SU05001-10002 SU05001-2012B	1A – 2.5A 3.15A – 6.3A 8A 10A
71 2	E10480	1A – 10A
⊕ ;	29862	1A – 10A
$\underline{\widehat{D^V_E}}$	40013521	1A – 8A
A	J50248091	10A
(€	N/A	1A – 10A

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		
	1A - 3.15A	30 minutes, Maximum		
210%	4A - 6.3A	30 minutes, Maximum		
	8A - 10A	30 minutes, Maximum		
	1A - 3.15A	.75 sec. Min.; 80 secs. Max.		
275%	4A - 6.3A	.75 sec. Min.; 80 secs. Max.		
	8A - 10A	.75 sec. Min.; 80 secs. Max.		
	1A - 3.15A	.095 sec. Min.; 5 secs. Max.		
400%	4A - 6.3A	.150 sec. Min.; 5 secs. Max.		
	8A - 10A	.150 sec. Min.; 5 secs. Max.		
	1A - 3.15A	.010 sec. Min.; .150 secs. Max.		
1000%	4A - 6.3A	.010 sec. Min.; .150 secs. Max.		
	8A - 10A	.010 sec. Min.; .150 secs. Max.		

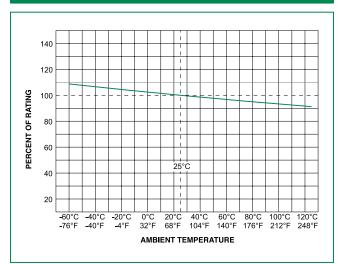
Electrical Characteristic Specifications by Item

				Nominal	D.A.	Maximum	Maximum	Agency Approvals							
Amp Code	Amp Rating	Voltage Rating	Interrupting Rating	Resistance Cold Ohms (Ohms) Nominal Melting I²t (A² sec)	Voltage Drop at Rated Current (mV)	Power Dissapation at 1.5In (W)	PSE	œ		<i>91</i>	⊕ ;	₽	<u></u>	Œ	
001.	1	250		0.1515	1.52000	350	2.5	х	х	Х	Х	Х	Х		х
1.25	1.25	250		0.1074	3.20000	300	2.5	х	Х	Х	х	Х	×		х
01.6	1.6	250		0.0707	6.83000	200	2.5	Х	Х	Х	x	Х	×		X
002.	2	250		0.0566	11.68000	190	2.5	х	Х	Х	x	Х	×		х
02.5	2.5	250		0.0386	22.29000	180	2.5	х	Х	Х	x	Х	×		X
3.15	3.15	250	1500 A @ 250 VAC	0.0283	43.25500	140	4	х	х	Х	x	Х	x		х
004.	4	250	200 17 10	0.0185	46.96000	100	4	х	Х	Х	X	Х	x		X
005.	5	250		0.0153	66.09500	100	4	х	Х	Х	х	Х	×		х
06.3	6.3	250		0.0108	128.75000	100	4	х	Х	Х	х	Х	×		X
008.	8	250		0.0092	209.88000	100	4	х		Х	х	Х	х		Х
010.	10	250		0.0066	333.56500	100	4	Х		Х	Х	Х		Х	х

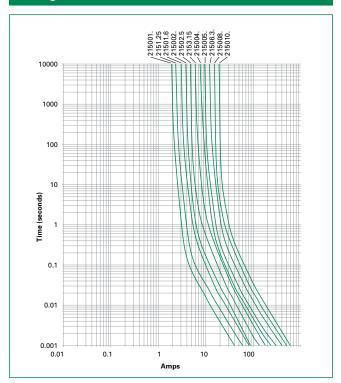
I2t test at 10x rated current

Axial Lead & Cartridge Fuses 5×20 mm > Time-Lag Fuse > 215SP Series

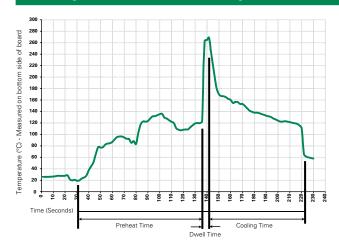
Temperature Re-rating Curve



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 DwellTime:	2-5 seconds			

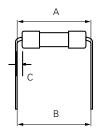
Recommended Hand-Solder Parameters:

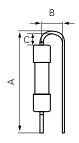
Solder Iron Temperature: 350°C +/- 5°C

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.



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 marks	

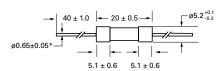
Operating Temperature	-55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B (5 cycles, -65°C to +125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MIL-STD-202, Method 103, Test Condition A (High RH (95%) and elevated temp (40°C) for 240 hours)
Salt Spray	MIL-STD-202, Method 101, Test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

Part Numbering System 0215 xxxx M X E SP P Series Lead-Free **Current Rating Code** Single-Cap Pigtail Refer to Amp Code column of Electrical Characteristics Table **Quantity Code Option Codes** M = 1000Blank: Cartidge Type Fuse : Axial Leaded Fuse **Packaging Code**

Packaging								
Packaging Option	Packaging Specification	Quantity	Reel Size					
215SP Series								
Bulk	N/A	1000	MXE	N/A				

Dimensions

All dimensions in mm



Additional Information







Samples

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Notes: * Ratings 8A and 10A have 0.8 \pm 0.05 diameter lead.