

# 021502.5MRET1SPP Datasheet



DiGi Electronics Part Number	021502.5MRET1SPP-DG
Manufacturer	<a href="#">Littelfuse Inc.</a>
Manufacturer Product Number	021502.5MRET1SPP
Description	FUSE CERAMIC 2.5A 250VAC 5X20MM
Detailed Description	2.5 A 250 V AC DC Fuse Cartridge, Ceramic Through Hole 5mm x 20mm (Axial)

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## Purchase and inquiry

Manufacturer Product Number:

021502.5MRET1SPP

Series:

215SP

Mounting Type:

Through Hole

Current Rating (Amps):

2.5 A

Response Time:

Slow Blow

Breaking Capacity @ Rated Voltage:

1.5kA

Approval Agency:

CE, CQC, CSA, KC, PSE, UR, VDE

Color:

-

DC Cold Resistance:

0.0386 Ohms

Manufacturer:

Littelfuse Inc.

Product Status:

Active

Fuse Type:

Cartridge, Ceramic

Voltage Rating - AC:

250 V

Package / Case:

5mm x 20mm (Axial)

Melting I<sup>2</sup>t:

22.29

Operating Temperature:

-55°C ~ 125°C

Size / Dimension:

0.205" Dia x 0.787" L (5.20mm x 20.00mm)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8536.10.0040

Moisture Sensitivity Level (MSL):

Not Applicable

ECCN:

EAR99

# Axial Lead & Cartridge Fuses

5x20 mm > Time-Lag Fuse > 215SP Series

## 215SP Series, 5x20 mm, Time-Lag Fuse



### Description

The 215SP Series is a 5x20m Time-lag, surge withstanding ceramic body, axial-leaded cartridge fuse designed to IEC specifications.









### Features

- High breaking capacity
- Meets Standard Sheet 5 of IEC 60127-2 as a Time-Lag fuse
- RoHS compliant and lead-free

### Applications

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

### Agency Approvals

Agency	Agency File Number	Ampere Range
	NBK080205-E10480B NBK250702-E10480F	1A – 5A 6.3A – 10A
	CCC self-declaration No.: 2020970207000048	1A - 10A
	SU05001-2011B SU05001-10001 SU05001-10002 SU05001-2012B	1A – 2.5A 3.15A – 6.3A 8A 10A
	E10480	1A – 10A
	29862	1A – 10A
	40013521	1A – 8A
	J50248091	10A
	N/A	1A – 10A

### Electrical Characteristics for Series

% of Ampere Rating	Ampere Rating	Opening Time
210%	1A - 3.15A	30 minutes, Maximum
	4A - 6.3A	30 minutes, Maximum
	8A - 10A	30 minutes, Maximum
275%	1A - 3.15A	0.75 sec. Min.; 80 secs. Max.
	4A - 6.3A	0.75 sec. Min.; 80 secs. Max.
	8A - 10A	0.75 sec. Min.; 80 secs. Max.
400%	1A - 3.15A	0.095 sec. Min.; 5 secs. Max.
	4A - 6.3A	0.150 sec. Min.; 5 secs. Max.
	8A - 10A	0.150 sec. Min.; 5 secs. Max.
1000%	1A - 3.15A	0.010 sec. Min.; .150 secs. Max.
	4A - 6.3A	0.010 sec. Min.; .150 secs. Max.
	8A - 10A	0.010 sec. Min.; .150 secs. Max.

### Additional Information



Datasheet











Resources



Samples

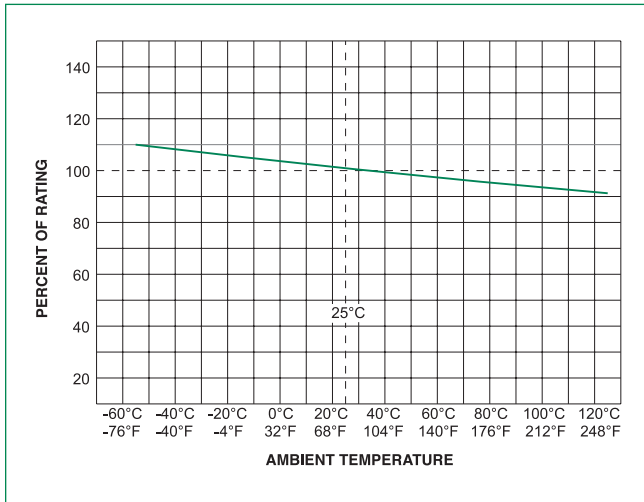
### Electrical Characteristic Specifications by Item

Amp Code	Amp Rating	Voltage Rating	Interrupting Rating**	Nominal Resistance Cold Ohms (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							
															
001.	1	250	1500 A @ 250 VAC	0.1515	1.52000	350	2.5	x	x	x	x	x	x	-	x
1.25	1.25	250		0.1074	3.20000	300	2.5	x	x	x	x	x	x	-	x
01.6	1.6	250		0.0707	6.83000	200	2.5	x	x	x	x	x	x	-	x
002.	2	250		0.0566	11.68000	190	2.5	x	x	x	x	x	x	-	x
02.5	2.5	250		0.0386	22.29000	180	2.5	x	x	x	x	x	x	-	x
3.15	3.15	250		0.0283	43.25500	140	4	x	x	x	x	x	x	-	x
004.	4	250		0.0185	46.96000	100	4	x	x	x	x	x	x	-	x
005.	5	250		0.0153	66.09500	100	4	x	x	x	x	x	x	-	x
06.3	6.3	250		0.0108	128.75000	100	4	x	x	x	x	x	x	-	x
008.	8	250		0.0092	209.88000	100	4	x	x	x	x	x	x	-	x
010.	10	250		0.0066	333.56500	100	4	x	x	x	x	x	x	-	x

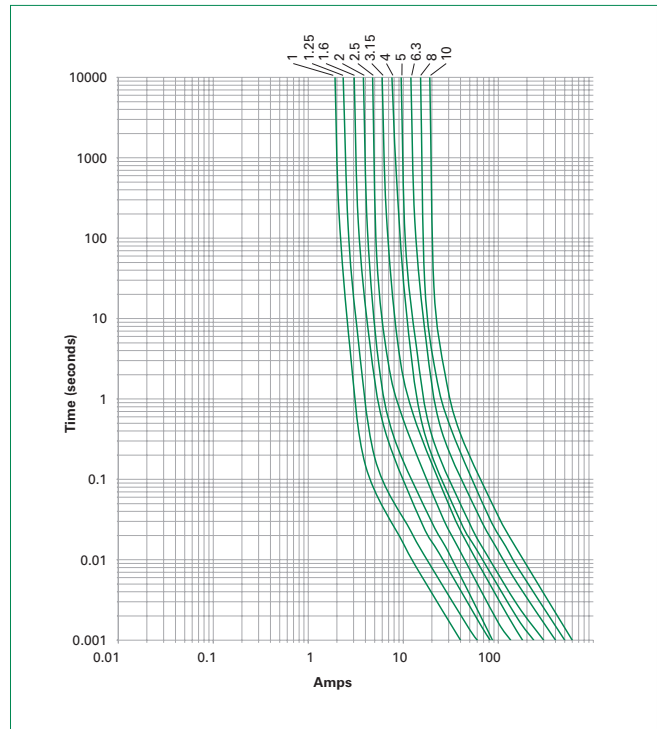
\*I<sub>2</sub>t test at 10x rated current

\*\* Interrupting Rating may differ based on Agency Approval. See Agency Approval certificate for more details.

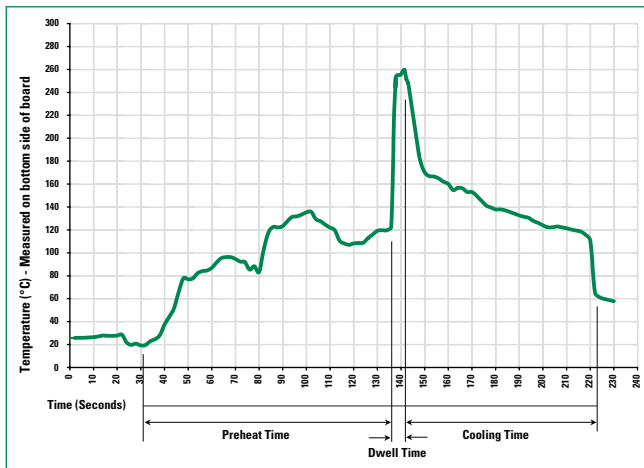
### Temperature Re-rating Curve



### Average Time Current Curves



### Soldering Parameters - Wave Soldering



### Recommended Process Parameters:

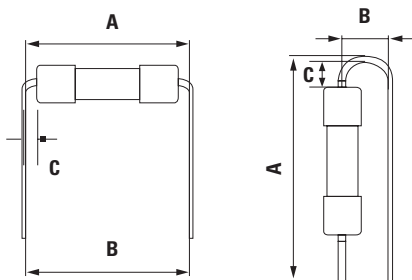
Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	260°C Maximum
Solder Dwell Time:	2-5 seconds

### 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.

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:

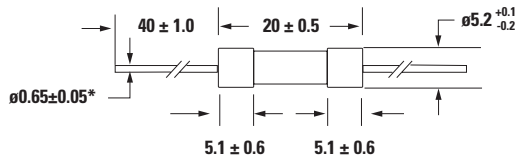
The distance between PCB and fuse cap is recommended to be a minimum of 1.5 mm.

### Product Characteristics

<b>Materials</b>	<b>Body:</b> Ceramic <b>Cap:</b> Nickel-plated Brass <b>Leads:</b> 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>	<b>Cap 1:</b> Brand logo, current and voltage ratings <b>Cap 2:</b> Agency approval marks
<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 temp (40°C) for 240 hours)
<b>Salt Spray</b>	MIL-STD-202, Method 101, Test Condition B

### Dimensions

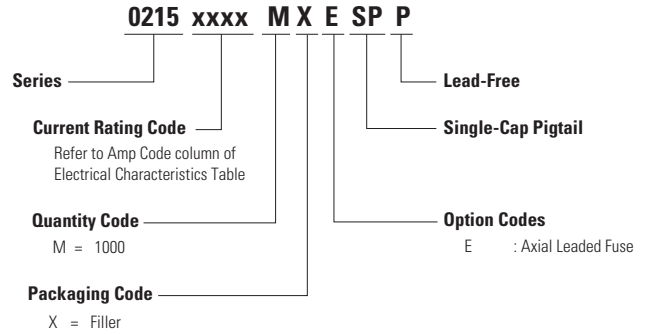
All dimensions in mm



**Notes:**

\* Ratings 8A and 10A have 0.8 ± 0.05 diameter lead.

### Part Numbering System



### Packaging

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

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