

5×20 mm > Medium-Acting > 232 Series

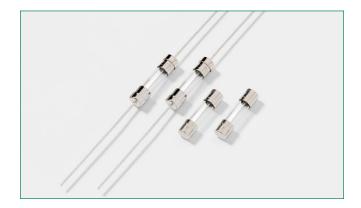
232 Series, 5×20 mm, Medium-Acting Fuse











Description

The 232 Series Fuse is a 5x20mm, medium-acting, glass body cartridge fuse. It is specifically designed to meet the requirements of Appendix 3 of DENAN Technical Requirements & Enforcement Regulations (METI).

Features

- Available in cartridge and axial lead format
- RoHS compliant and lead-free
- Approved to DENAN's Appendix 3

Agency Approvals

Agency	Agency File Number	Ampere Range
PS E	Cartridge: NBK180509-JP1021 A/C NBK020609-JP1021 A/C Leaded: NBK180509-JP1021 B/D NBK020609-JP1021 B/D	1A – 5A 6.3A – 10A 1A – 5A 6.3A – 10A
	SU05001-2015	1A – 10A
Œ	N/A	1A – 10A

Applications

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

Additional Information









see 'Recommended Accessories' section.

For recommended fuse accessories for this product series,

Electrical Characteristics for Series

% of Ampere Rating	Opening Time
130%	1 hour, Minimum
160%	1 hour, Maximum
200%	2 minutes, Maximum

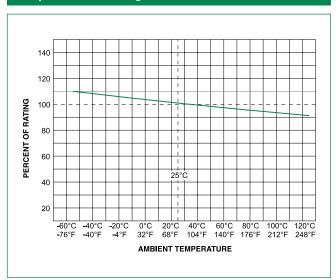
Electrical Characteristic Specifications by Item

Amp Code Amp Rating (A)	Amp Pating	Voltage Rating	Interrupting	Nominal Cold	Nominal Melting	Age	ency Appro	vals
	(V)	Rating	Resistance (Ohms)	I ² t (A ² sec)	⟨PS E		Œ	
001.	1	125/250		0.0923	1.37300	Х	x	х
1.25	1.25	125/250		0.0685	4.11000	х	×	х
01.6	1.6	125/250		0.0537	6.96000	х	х	х
002.	2	125/250		0.0370	8.25000	х	х	х
02.5	2.5	125/250	10 kA @ 125VAC	0.0291	13.87500	х	х	х
003.	3	125/250		0.0226	17.19000	х	х	х
3.15	3.15	125/250		0.0215	21.9500	х	х	х
004.	4	125/250		0.0174	37.73000	х	х	х
005.	5	125/250		0.0134	56.72000	х	х	х
06.3	6.3	125/250		0.0102	151.54000	х	х	х
008.*	8	125/250	300A @ 125VAC	0.0076	182.58000	х	х	х
010.*	10	125/250		0.0059	290.66500	х	х	х

To order 125Vac rated, please add part no. suffix * Interrupting Rating for 8A & 10A is 100A@250Vac

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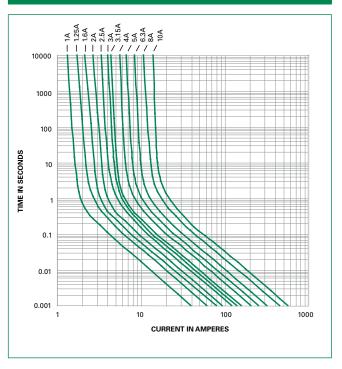
Temperature Re-rating Curve



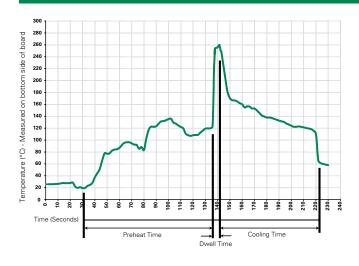
Note:

Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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.

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width				
	232 Series							
Bulk	N/A	1000	MX	N/A				
Bulk	N/A	1000	MXE	N/A				

Axial Lead & Cartridge Fuses

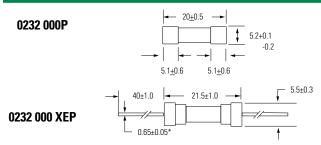
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Product Characteristics

	Body: Glass
Materials	Cap: Nickel-plated brass
	Leads: Tin-plated Copper
Townsia at Chuan ath	MIL-STD-202, Method 211.
Terminal Strength	Test Condition A
Solderability	MIL-STD-202 Method 208
Product Marking	Cap 1: Brand log, current and voltage ratings, and agency approval Cap 2: Blank
Packaging	Available in Bulk (M=1000 pcs/pkg) or on Tape/

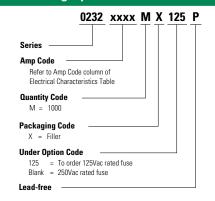
Operating Temperature	-60°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C + 125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MILSTD-202, Method 103, Test Condition A high RH (95%) and elevated temperature (40°C) for 240 hours.
Salt Spray	MIL-STD-202, Method 101, Test Condition B

Dimensions



Notes:

Part Numbering System



Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
	345_ISF	Panel Mount Shock-Safe Fuseholder		10
Holder	345	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options		20
	830	PC Mount Shock-Safe Miniature Fuseholder		16
	<u>520</u>	Metric OMNI-BLOK® Fuse Block		10
Block	<u>646</u>	PC Mount Miniature Fuse Block	250	6.3
658	<u>658</u>	Surface Mount Miniature Fuse Block		10
	520 W	PC Mount Miniature Fuse Clip		6.3
Clip	111	PC Board Mount Fuse Clip		10
	445	PC Board Mount Fuse Clip		10

- Notes:

 1. Do not use in applications above rating.

 2. Please refer to fuseholder data sheet for specific re-rating information.
- 3. 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: www.littelfuse.com/disclaimer-electronics.

^{*} Ratings above 6.3A have 0.8 \pm 0.05 diameter lead. All dimensions in mm