

### 232 Series, 5x20 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
- Approved to DENAN's Appendix 3
- 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
	Cartridge: NBK180509-JP1021 A/C NBK020609-JP1021 A/C	1A – 5A 6.3A – 10A
	Leaded: NBK180509-JP1021 B/D NBK020609-JP1021 B/D	1A – 5A 6.3A – 10A
	SU05001-2015	1A – 10A
	N/A	1A – 10A

#### Additional Information



[Datashheet](#)



[Resources](#)



[Samples](#)



[Accessories](#)

For recommended fuse accessories for this product series, see '[Recommended Accessories](#)' section.

#### 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)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Agency Approvals		
001.	1	125/250	10 kA @ 125VAC	0.0923	1.37300	x	x	x
1.25	1.25	125/250		0.0685	4.11000	x	x	x
01.6	1.6	125/250		0.0537	6.96000	x	x	x
002.	2	125/250		0.0370	8.25000	x	x	x
02.5	2.5	125/250		0.0291	13.87500	x	x	x
003.	3	125/250		0.0226	17.19000	x	x	x
3.15	3.15	125/250		0.0215	21.9500	x	x	x
004.	4	125/250		0.0174	37.73000	x	x	x
005.	5	125/250		0.0134	56.72000	x	x	x
06.3	6.3	125/250		0.0102	151.54000	x	x	x
008.*	8	125/250	300A @ 125VAC	0.0076	182.58000	x	x	x
010.*	10	125/250		0.0059	290.66500	x	x	x

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

### Temperature Re-rating Curve



Note:  
Derating 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 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.**

### 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

### Product Characteristics

<b>Materials</b>	Body: Glass Cap: Nickel-plated brass Leads: 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>	Cap 1: Brand log, current and voltage ratings, and agency approval Cap 2: Blank
<b>Packaging</b>	Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel)

<b>Operating Temperature</b>	-60°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C + 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 temperature (40°C) for 240 hours.
<b>Salt Spray</b>	MIL-STD-202, Method 101, Test Condition B

### Dimensions



### Part Numbering System



### Recommended Accessories

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

- Notes:**
- Do not use in applications above rating.
  - Please refer to fuseholder data sheet for specific re-rating information.
  - 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](http://www.littelfuse.com/disclaimer-electronics).



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.