

### 312/318 Series Lead-Free 3AG, Fast-Acting Fuse



#### Description

The 3AG Fast-Acting Fuse solves a broad range of application requirements while offering reliable performance and cost-effective circuit protection.

#### Features

- In accordance with UL Standard 248-14
- Available in cartridge and axial lead format and with various forming dimensions
- RoHS compliant and Lead-free







#### 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
100%	0.062A – 35A	4 hours, Minimum
135%	0.062A – 35A	1 hour, Maximum
200%	0.062A – 10A	5 sec., Maximum
	12A – 30A	10 sec., Maximum
	35A	20 sec., Maximum

#### Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	0.062A - 25A
	29862	312 Series: 0.062A - 30A 318 Series: 0.062A - 10A
	(312 Series) NBK040205-E10480B NBK040205-E10480F  (318 Series) NBK040205-E10480D NBK040205-E10480H	1A - 5A 6A - 10A  1A - 5A 6A - 10A
	E10480	318 Series: 12A - 30A
	SU05001-6008 SU05001-5005 SU05001-5006	1A - 2A 3A - 6A 7A - 10A
	N/A	0.062A - 10A

#### Additional Information



**Datasheet  
312 Series**



**Resources  
312 Series**



**Samples  
312 Series**



**Accessories  
312 & 318 Series**



**Datasheet  
318 Series**



**Resources  
318 Series**



**Samples  
318 Series**

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

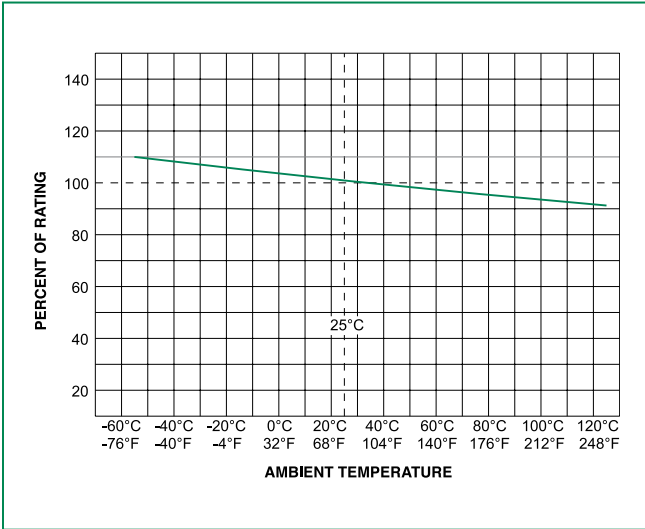
### Electrical Characteristic Specifications by Item

Amp Code	Ampere 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					
						UL	cRU <sub>s</sub>	K	PSE	SF	CE
.062	0.062	250	35A@250Vac 10KA@125Vac	24.7000	0.000249	x				x	x
.100	0.1	250		11.2800	0.00171	x				x	x
.125	0.125	250		7.1450	0.00289	x				x	x
.150	0.15	250		5.1300	0.00550	x				x	x
.175	0.175	250		3.8750	0.00960	x				x	x
.187	0.187	250		3.4200	0.0128	x				x	x
.200	0.2	250		3.0200	0.0165	x				x	x
.250	0.25	250		2.0100	0.0355	x				x	x
.300	0.3	250		1.4050	0.0689	x				x	x
.375	0.375	250		0.8250	0.185	x				x	x
.500	0.5	250		0.4980	0.483	x				x	x
.600	.6	250		0.3620	0.880	x				x	x
.750	0.75	250		0.2445	1.84	x				x	x
001.	1	250		0.1900	0.760	x			x	x	x
1.25	1.25	250	100A@250Vac 10KA@125Vac	0.1385	1.45	x		x	x	x	x
01.5	1.5	250		0.1036	2.35	x			x	x	x
01.6	1.6	250		0.0934	2.80	x		x	x	x	x
1.75	1.75	250		0.0856	3.60	x			x	x	x
01.8	1.8	250		0.0825	3.85	x			x	x	x
002.	2	250		0.0704	5.20	x			x	x	x
2.25	2.25	250		0.0594	7.20	x			x	x	x
02.5	2.5	250		0.0513	9.54	x			x	x	x
003.	3	250		0.0427	14.0	x			x	x	x
004.	4	250		200A@250Vac 10KA@125Vac	0.0293	28.5	x		x	x	x
005.	5	250	0.0224		50.0	x			x	x	x
006.	6	250	0.0178		118.0	x			x	x	x
007.	7	250	0.0146		81.0	x			x	x	x
008.	8	250	0.0122		166.0	x			x	x	x
010.	10	250	0.0093		298.0	x			x	x	x
012.	12	32	300A@32 Vac	0.0072	234.6	x				x	
015.	15	32		0.0052	490.5	x					x
020.	20	32		0.0035	1414	x					x
025.	25	32		0.0024	2041	x					x
030.	30	32		0.0019	3717						x
035.	35	32		0.0013	7531						

NOTES:

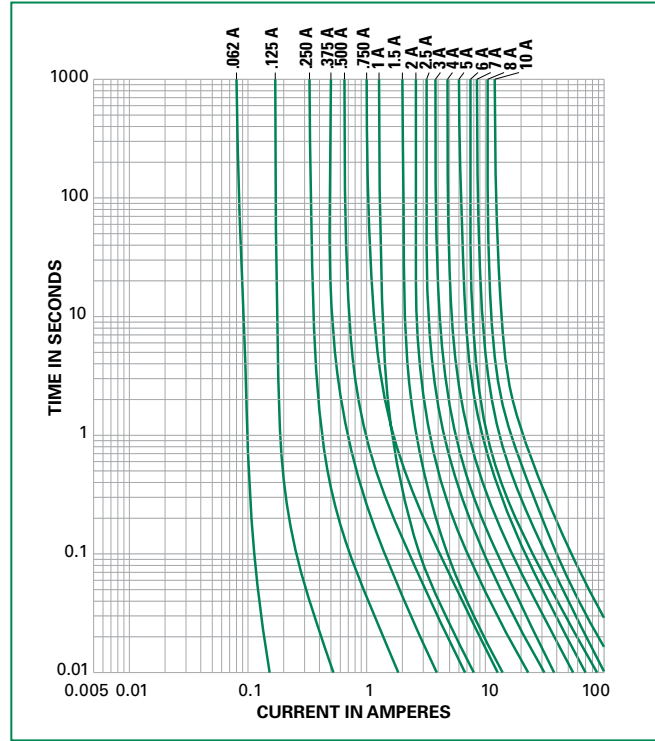
\*\* For 318 Series 12A to 30A, the agency approval is only cURus.

**Temperature Re-rating Curve**



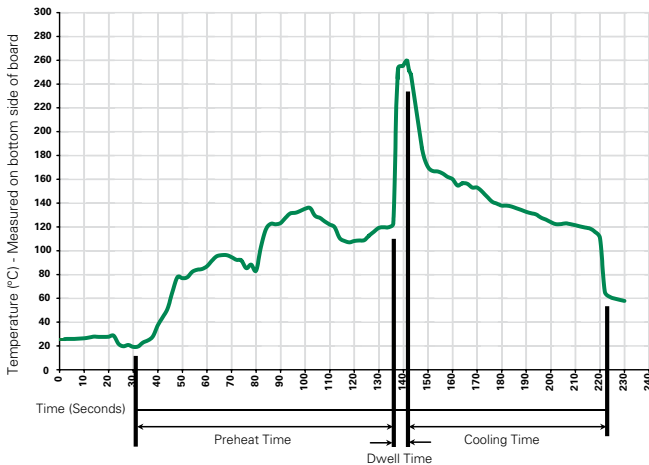
Note:  
Rerating depicted in this curve is in addition to the industry practice derating of 25% for continuous operation.

**Average Time Current Curves**



Please contact Littelfuse for more details on those T-C Curves of other ampere ratings which are not published.

**Soldering Parameters - Wave Soldering**



**Recommended Process Parameters:**

Wave Parameter	Lead-Free Recommendation
<b>Preheat:</b> (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
<b>Solder Pot Temperature:</b>	260°C Maximum
<b>Solder Dwell Time:</b>	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.**

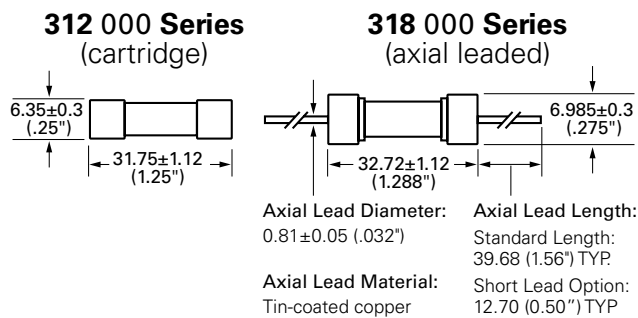
## Product Characteristics

<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>	Cap1: Brand logo, current and voltage ratings Cap2: Series and agency approval marks

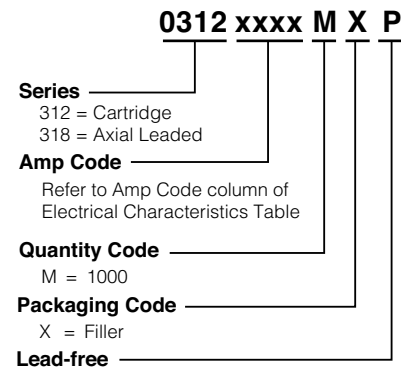
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A: High RH (95%), and Elevated temperature (40°C) for 240 hours
<b>Salt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

## Dimensions

Measurements displayed in millimeters (inches)



## Part Numbering System



## Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
<b>312 Series</b>				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	100	HX	N/A
<b>318 Series</b>				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	100	HX	N/A
Bulk	N/A	1000	MXB	N/A

### Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
Holder	<a href="#">155100</a>	Twist-Lock In-Line Fuseholder	32	20
	<a href="#">342</a>	Traditional Panel Mount Fuseholder	250	20
	<a href="#">346</a>	Panel Mount Flip-Top Shock-Safe Fuseholder	250	15
	<a href="#">345</a>	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options	250	20
Block	<a href="#">354</a>	Low Profile OMNI-BLOK® Fuse Block	600	30
	<a href="#">359</a>	High Current Screw Terminal Fuse Block		30
Clip	<a href="#">122</a>	High Current Traditional PC Board Fuse Clip	1000	30
	<a href="#">101</a>	Rivet/Eyelet Type Fuse Clip	1000	15

- 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](http://www.littelfuse.com/disclaimer-electronics).

### 312/318 Series Lead-Free 3AG, Fast-Acting Fuse



#### Description

The 3AG Fast-Acting Fuse solves a broad range of application requirements while offering reliable performance and cost-effective circuit protection.

#### Features

- In accordance with UL Standard 248-14
- Available in cartridge and axial lead format and with various forming dimensions
- RoHS compliant and Lead-free







#### 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
100%	0.062A – 35A	4 hours, Minimum
135%	0.062A – 35A	1 hour, Maximum
200%	0.062A – 10A	5 sec., Maximum
	12A – 30A	10 sec., Maximum
	35A	20 sec., Maximum

#### Agency Approvals

Agency	Agency File Number	Ampere Range
	E10480	0.062A - 25A
	29862	312 Series: 0.062A - 30A 318 Series: 0.062A - 10A
	(312 Series) NBK040205-E10480B NBK040205-E10480F  (318 Series) NBK040205-E10480D NBK040205-E10480H	1A - 5A 6A - 10A  1A - 5A 6A - 10A
	E10480	318 Series: 12A - 30A
	SU05001-6008 SU05001-5005 SU05001-5006	1A - 2A 3A - 6A 7A - 10A
	N/A	0.062A - 10A

#### Additional Information



**Datasheet**  
312 Series



**Resources**  
312 Series



**Samples**  
312 Series



**Accessories**  
312 & 318 Series



**Datasheet**  
318 Series



**Resources**  
318 Series



**Samples**  
318 Series

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

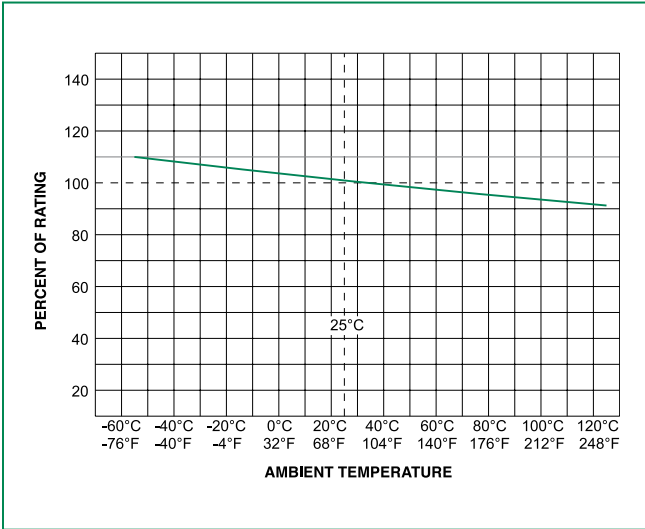
### Electrical Characteristic Specifications by Item

Amp Code	Ampere 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					
						UL	cRU <sub>s</sub>	K	PSE	SF	CE
.062	0.062	250	35A@250Vac 10KA@125Vac	24.7000	0.000249	x				x	x
.100	0.1	250		11.2800	0.00171	x				x	x
.125	0.125	250		7.1450	0.00289	x				x	x
.150	0.15	250		5.1300	0.00550	x				x	x
.175	0.175	250		3.8750	0.00960	x				x	x
.187	0.187	250		3.4200	0.0128	x				x	x
.200	0.2	250		3.0200	0.0165	x				x	x
.250	0.25	250		2.0100	0.0355	x				x	x
.300	0.3	250		1.4050	0.0689	x				x	x
.375	0.375	250		0.8250	0.185	x				x	x
.500	0.5	250		0.4980	0.483	x				x	x
.600	.6	250		0.3620	0.880	x				x	x
.750	0.75	250		0.2445	1.84	x				x	x
001.	1	250		0.1900	0.760	x			x	x	x
1.25	1.25	250	100A@250Vac 10KA@125Vac	0.1385	1.45	x		x	x	x	x
01.5	1.5	250		0.1036	2.35	x			x	x	x
01.6	1.6	250		0.0934	2.80	x		x	x	x	x
1.75	1.75	250		0.0856	3.60	x			x	x	x
01.8	1.8	250		0.0825	3.85	x			x	x	x
002.	2	250		0.0704	5.20	x			x	x	x
2.25	2.25	250		0.0594	7.20	x			x	x	x
02.5	2.5	250		0.0513	9.54	x			x	x	x
003.	3	250		0.0427	14.0	x			x	x	x
004.	4	250		200A@250Vac 10KA@125Vac	0.0293	28.5	x		x	x	x
005.	5	250	0.0224		50.0	x		x	x	x	x
006.	6	250	0.0178		118.0	x		x	x	x	x
007.	7	250	0.0146		81.0	x		x	x	x	x
008.	8	250	0.0122		166.0	x		x	x	x	x
010.	10	250	0.0093		298.0	x		x	x	x	x
012.	12	32	300A@32 Vac	0.0072	234.6	x		x**		x	
015.	15	32		0.0052	490.5	x		x**		x	
020.	20	32		0.0035	1414	x		x**		x	
025.	25	32		0.0024	2041	x		x**		x	
030.	30	32		0.0019	3717			x**		x	
035.	35	32		0.0013	7531						

NOTES:

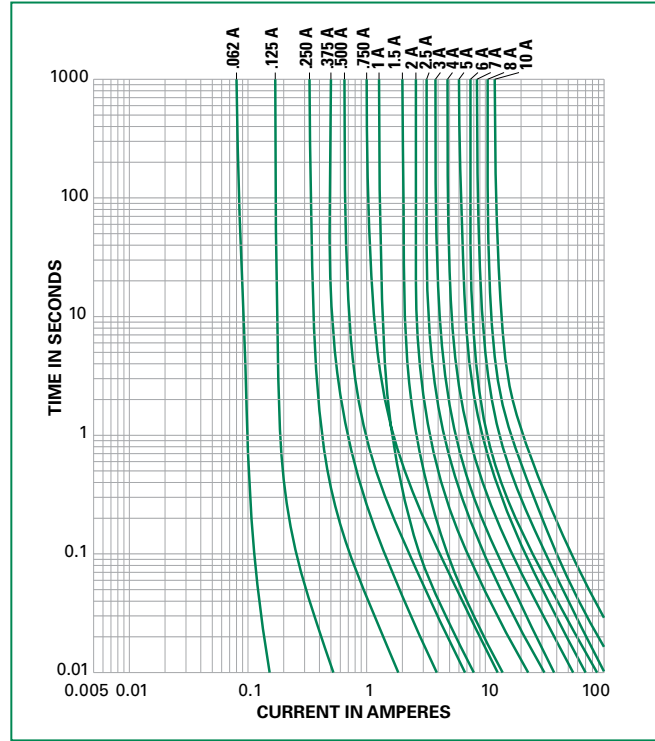
\*\* For 318 Series 12A to 30A, the agency approval is only cURus.

**Temperature Re-rating Curve**



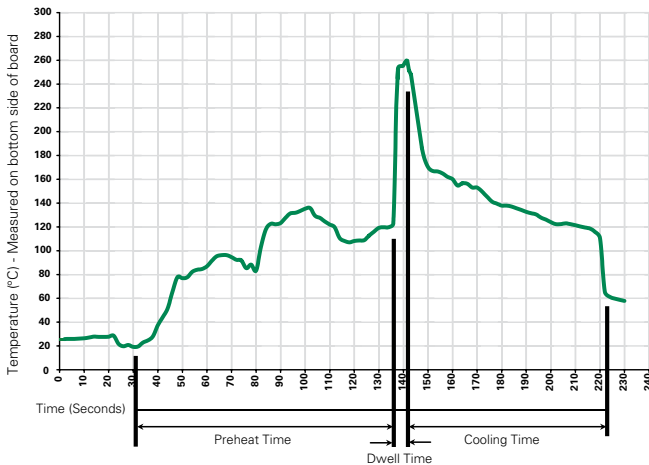
Note:  
Rerating depicted in this curve is in addition to the industry practice derating of 25% for continuous operation.

**Average Time Current Curves**



Please contact Littelfuse for more details on those T-C Curves of other ampere ratings which are not published.

**Soldering Parameters - Wave Soldering**



**Recommended Process Parameters:**

Wave Parameter	Lead-Free Recommendation
<b>Preheat:</b> (Depends on Flux Activation Temperature) (Typical Industry Recommendation)	
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
<b>Solder Pot Temperature:</b>	260°C Maximum
<b>Solder Dwell Time:</b>	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.**



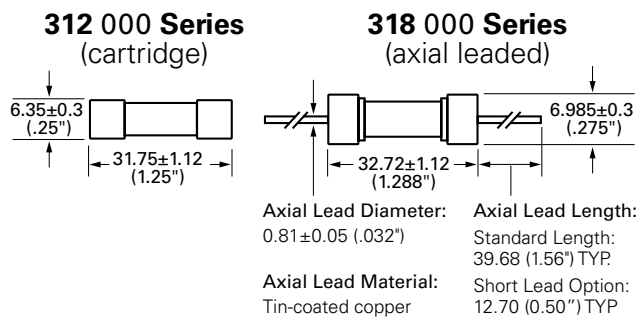
## Product Characteristics

<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>	Cap1: Brand logo, current and voltage ratings Cap2: Series and agency approval marks

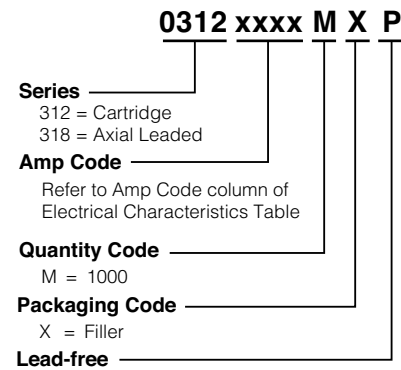
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A: High RH (95%), and Elevated temperature (40°C) for 240 hours
<b>Salt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

## Dimensions

Measurements displayed in millimeters (inches)



## Part Numbering System



## Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
<b>312 Series</b>				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	100	HX	N/A
<b>318 Series</b>				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	100	HX	N/A
Bulk	N/A	1000	MXB	N/A

### Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
Holder	<a href="#">155100</a>	Twist-Lock In-Line Fuseholder	32	20
	<a href="#">342</a>	Traditional Panel Mount Fuseholder	250	20
	<a href="#">346</a>	Panel Mount Flip-Top Shock-Safe Fuseholder	250	15
	<a href="#">345</a>	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options	250	20
Block	<a href="#">354</a>	Low Profile OMNI-BLOK® Fuse Block	600	30
	<a href="#">359</a>	High Current Screw Terminal Fuse Block		30
Clip	<a href="#">122</a>	High Current Traditional PC Board Fuse Clip	1000	30
	<a href="#">101</a>	Rivet/Eyelet Type Fuse Clip	1000	15

- 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.