

### 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	1A - 5A 6A - 10A
	(318 Series) NBK040205-E10480D NBK040205-E10480H	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.

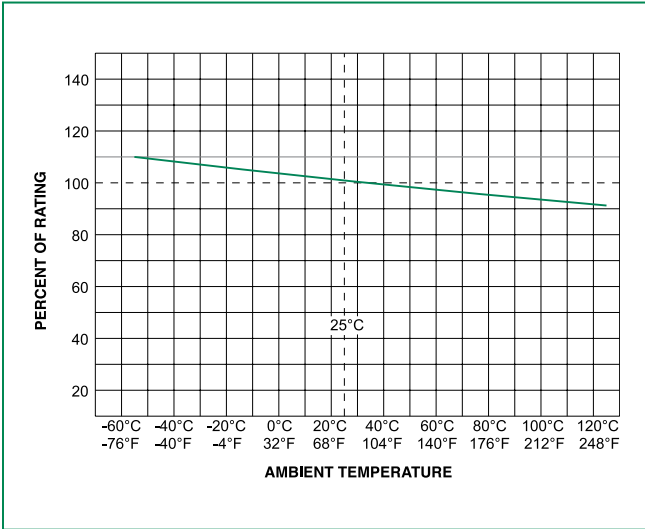
**Electrical Characteristic Specifications by Item**

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:

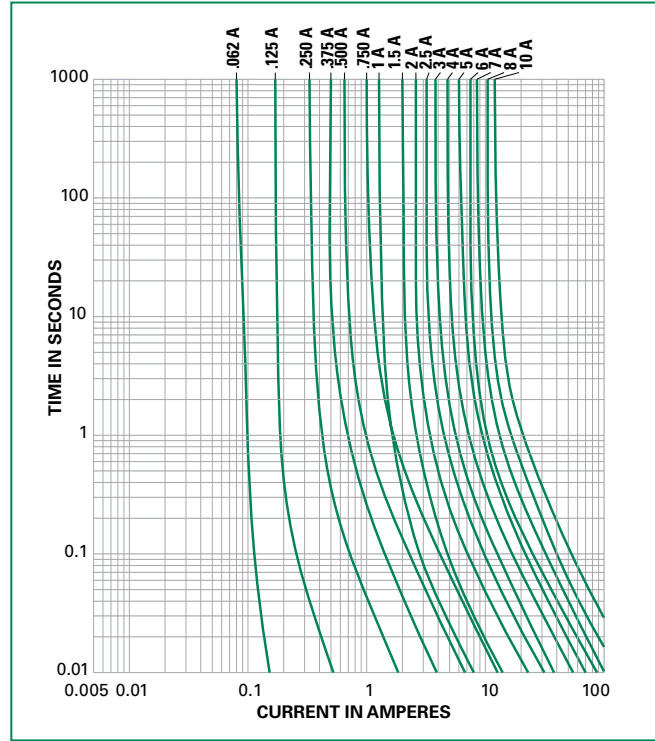
\*\* For 318 Series 12A to 30A, the agency approval is only cURus.

**Temperature Re-rating Curve**



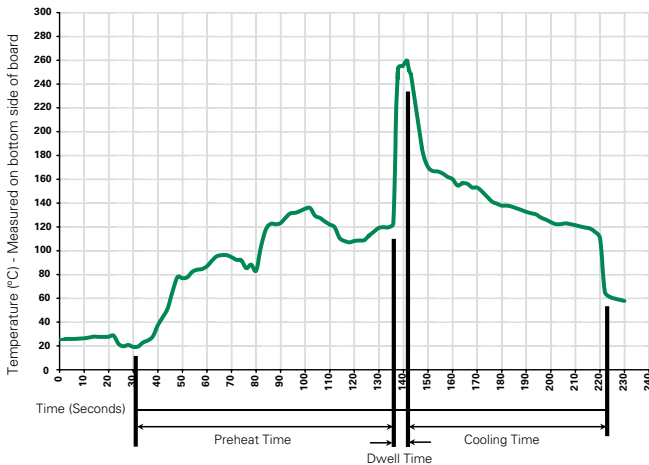
Note:  
Rerating depicted in this curve is in addition to the industry practice derating of 25% for continuous operation.

**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.**

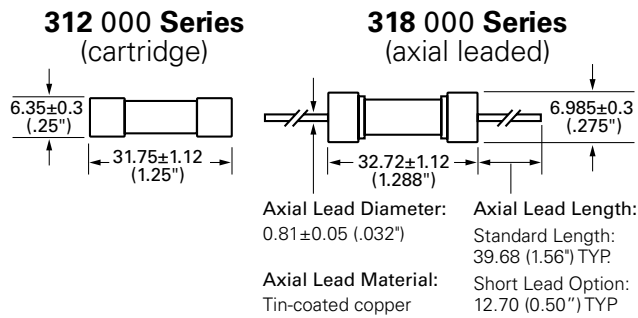
## Product Characteristics

<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

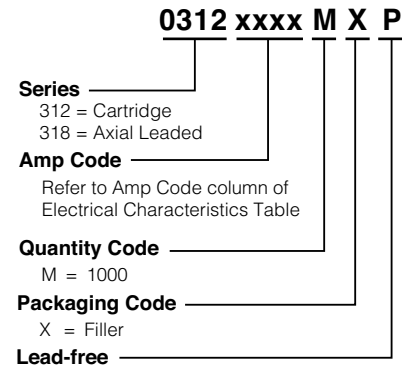
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A: High RH (95%), and Elevated temperature (40°C) for 240 hours
<b>Salt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

### 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.

#### 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

#### 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

#### 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.

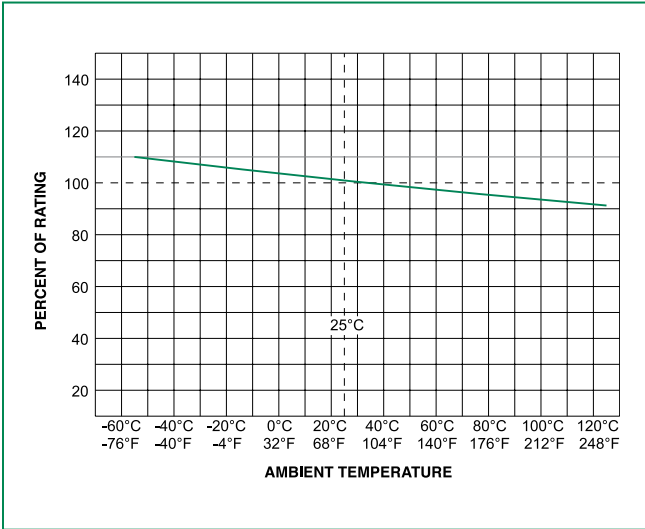
### Electrical Characteristic Specifications by Item

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	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	x
01.6	1.6	250		0.0934	2.80	x		x	x	x	x	x
1.75	1.75	250		0.0856	3.60	x			x	x	x	x
01.8	1.8	250		0.0825	3.85	x			x	x	x	x
002.	2	250		0.0704	5.20	x			x	x	x	x
2.25	2.25	250		0.0594	7.20	x			x	x	x	x
02.5	2.5	250		0.0513	9.54	x			x	x	x	x
003.	3	250		0.0427	14.0	x			x	x	x	x
004.	4	250		200A@250Vac 10KA@125Vac	0.0293	28.5	x		x	x	x	x
005.	5	250	0.0224		50.0	x		x	x	x	x	x
006.	6	250	0.0178		118.0	x		x	x	x	x	x
007.	7	250	0.0146		81.0	x		x	x	x	x	x
008.	8	250	0.0122		166.0	x		x	x	x	x	x
010.	10	250	0.0093		298.0	x		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:

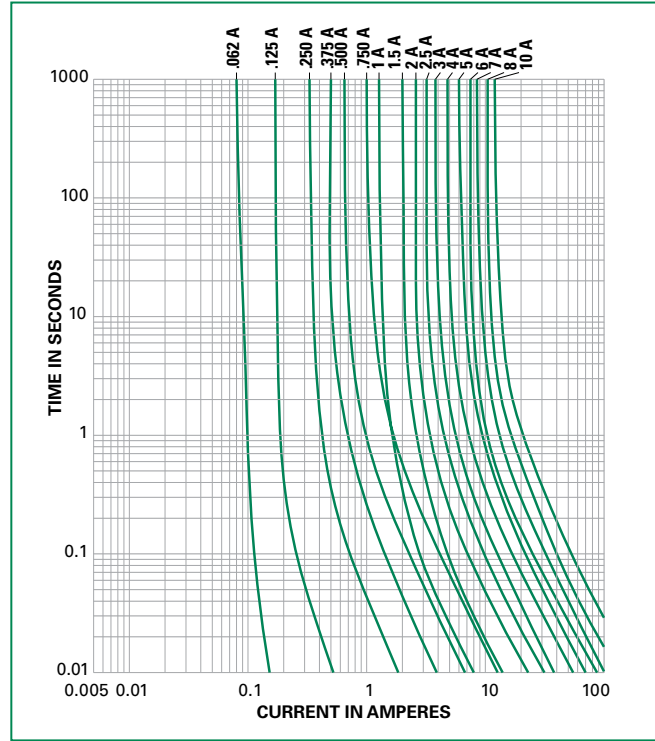
\*\* For 318 Series 12A to 30A, the agency approval is only cURus.

**Temperature Re-rating Curve**



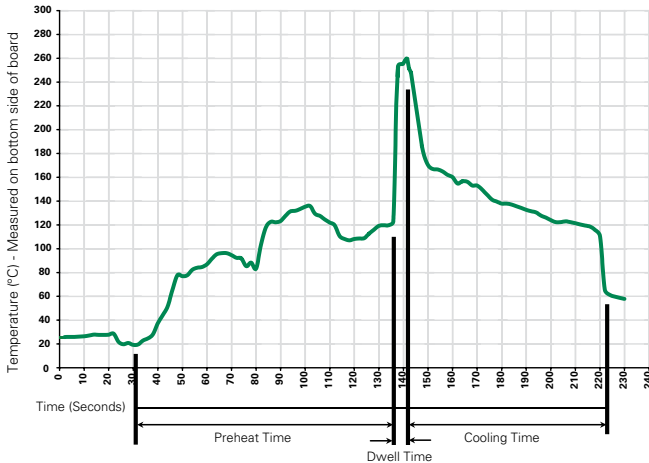
Note:  
Rerating depicted in this curve is in addition to the industry practice derating of 25% for continuous operation.

**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.**



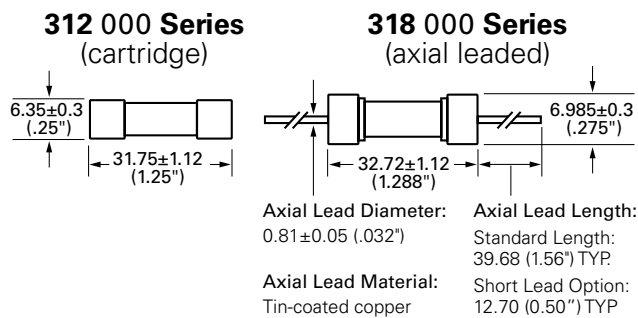
## Product Characteristics

<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

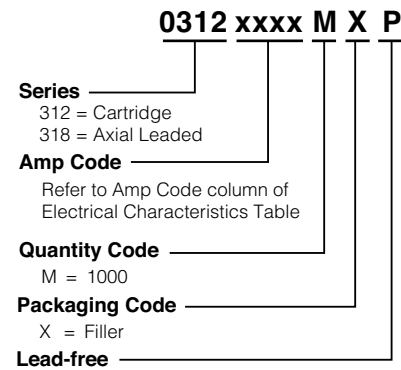
<b>Operating Temperature</b>	-55°C to +125°C
<b>Thermal Shock</b>	MIL-STD-202, Method 107, Test Condition B: (5 cycles -65°C to +125°C)
<b>Vibration</b>	MIL-STD-202, Method 201
<b>Humidity</b>	MIL-STD-202, Method 103, Test Condition A: High RH (95%), and Elevated temperature (40°C) for 240 hours
<b>Salt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