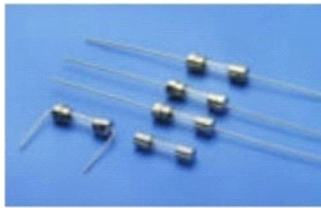


**Bettertel**Circuit protection component
manufacturer & brand operator

5*20mm / NO. 512

Time-Lag Low Breaking Capacity Glass Tube Fuse Series

玻璃管慢熔断低分断能力保险管

**Time-Current Characteristic(时间—电流特性)**

Time-Lag (T)

Standard(标准)

UL:-248-14

Materials(物料)

Tube: Glass Tube
 End Caps: Nickel-plated brass
 Axial Leads: Nickel-plated caps
 Tin-plated **copper** wires

Operating Temperature(工作温度)

-55 °C to +125 °C (consider de-rating)

Stock Conditions(贮存条件)

+10 °C to +60 °C
 relative humidity ≤75% yearly average,
 without dew,maximum value for 30days-95%.

Vibration Resistance(振荡承载能力)

24 cycles at 15 min. each (EN 60068-6)
 10-60Hz at 0.75mm amplitude
 60-2000Hz at 10g acceleration

Solderability(可焊性)

260 °C, ≤10 sec.(Wave)

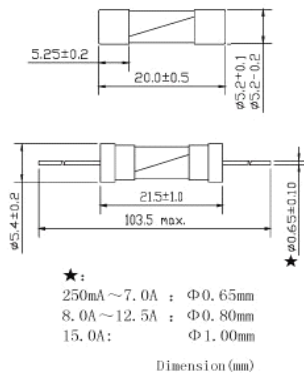
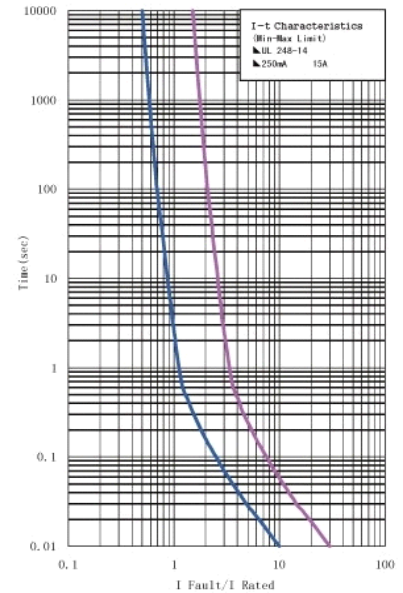
350 °C, ≤3 sec.(Hand)

Soldering Heat Resistance(焊温承载能力)

260 °C, 10 sec. (IEC 60068-20)

Packaging

00 without leads-bulk(1000pcs)
 01 Axial leads $\varnothing$ 0.65mm * 38mm-bulk(400pcs)
 03 Axial leads $\varnothing$ 0.8mm * 38mm-bulk(400pcs)

**Electrical Characteristics: UL-248-14**

Rated Current	100%	135%	200%
250mA~15A	>4h	<1h	5~120s

**Permissible continuous operating current is ≤100% at ambient temperature of 23°C (73.4°F).**

Rated Current	Amp Code	Voltage Rating	Breaking Capacity	Approvals
				cULus cURus
250mA	0250	125V/250V		○ ○
300mA	0300	125V/250V	10kA/125V AC	○ ○
315mA	0315	125V/250V		○ ○
350mA	0350	125V/250V		○ ○
375mA	0375	125V/250V	35A/250V AC	○ ○
400mA	0400	125V/250V		○ ○
500mA	0500	125V/250V	CosΦ=0.7~0.8	○ ●
630mA	0630	125V/250V		○ ●
750mA	0750	125V/250V		○ ●
800mA	0800	125V/250V		○ ●
1.00A	1100	125V/250V		○ ●
1.25A	1125	125V/250V	10kA/125V AC	○ ●
1.50A	1150	125V/250V	100A/250VAC	○ ●
1.60A	1160	125V/250V	50-60Hz	○ ●
2.00A	1200	125V/250V	CosΦ=0.7~0.8	○ ●
2.50A	1250	125V/250V		○ ●
3.00A	1300	125V/250V		○ ●
3.15A	1315	125V/250V		○ ●
3.50A	1350	125V/250V		○ ●
4.00A	1400	125V/250V		○ ●
5.00A	1500	125V/250V		○ ●
6.30A	1630	125V/250V		○ ●
7.00A	1700	125V/250V		○ ●
8.00A	1800	125V/250V	400A/125VAC	○ ●
10.00A	2100	125V/250V		○ ●
12.00A	2120	125V/250V	100A/250VAC	○ ●
12.50A	2125	125V/250V		○ ●
15.00A	2150	125V/250V		○ ●

Order information

Qty.	Order-number	Series	AmpCode	Voltage	packaging
		512			



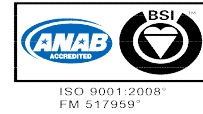
National High-tech Enterprise
 SC 32C National Technical
 Committee Member of China
 881 ISO 9001 certified company
 MOODY ISO 14001 certified company

国家高新技术企业
 SC 32C 国内专家组成员单位
 851 ISO 9001 认证企业
 881 ISO 14001 认证企业

BETTER ELECTRONICS TECHNOLOGY CO.,LTD.
 东莞市贝特电子科技股份有限公司
www.betterfuse.com



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 Liao Bu Town, Dongguan, Guangdong. China.
 Tel:+86 769 8323 8731
 Fax:+86 769 8352 1857
 Web: www.betterfuse.com



APPROVAL SHEET

Client :

Presented list:

File

Part No.	Product discription	Client P/N	Approval result

Signature:

Prepared by	Checked By	Approved By

Prepared by	Checked By	Approved By

Supplier:

Customer:

Date:

Data:

Noted: Please return one copy of it to us once you approve and chop it, so that we can record client' s information and ensure client' s requirements can be met in the future.If order of this item is placed without special instruction before returning the copy to us, we will think you have approved this approval sheet

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1. SCOPE

1.1 This Specification applies to 512 series Miniature fuses.

2. GENERAL

2.1 General Information

- Time-Lag Low breaking capacity
- 5.2mmX20mm physical size
- Glass tube nicked plated brass end cap construction
- Optional axial leads: 0.65mmX25mm for 250mA~7A ratings.
(8A-12.5A are ratings 0.8mmX25mm, 15A are 1.0mmX25mm)
- Optional sleeve is flexible flouropolymer (U.L. flammability rating VW-1).
- Designed to UL248-14 (250mA – 15A)
- RoHS compliant and HF

2.2 General Description

512 Time-Lag, Low breaking capacity fuse protection for the PC board is used in a variety of applications. This 5.2X20mm device is constructed of glass with electroplated brass end caps. The 512 with a 250 VAC rating and 100A Ampere breaking capacity offers excellent assurance with its 100% cold Resistance, and length testing.

3. MANUFACTURER

Dongguan Better Electronics Technology co.,ltd.
NanMen Village, HengKen Administrative Zone
Liao Bu Town, Dongguan, Guangdong. China.

4. Agency Approvals

Agency	Agency File Number	Ampere Range
	E300003	500mA~15A

5. CATALOG SYMBOL AND PART NUMBERING SYSTEM

5.1 Catalog Symbol

5.1.1 Example -5121500200

		<u>512</u>	<u>1500</u>	<u>2</u>	<u>00</u>
		↓	↓	↓	↓
		1	2	3	4
1)	Series:				512
2)	Ampere Code/Rating:				5A
3)	Voltage Rating:			2	250V
				1	125V
4)	Package Code:				00

5.2 Part Numbering System

5.2.1 Packaging Code

Catalog	Designation
00	Without leads-bulk(1000PCS)
01	Axial leads ϕ 0.65x25mm-bulk(400PCS)
03	Axial leads ϕ 0.8x25mm-bulk(400PCS)
05	Axial leads ϕ 1.0x25mm-bulk(400PCS)

5.2.2 Ampere Rating

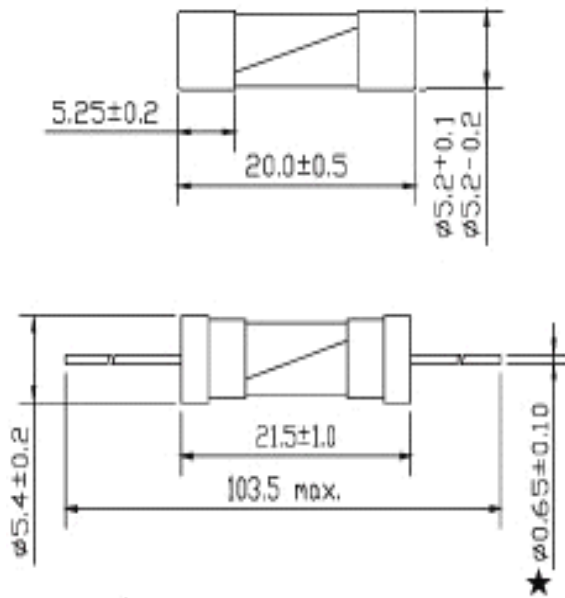
Amp code	Current Rating	Voltage Rating
0250	250mA	250V
0300	300mA	250V
0315	315mA	250V
0350	350mA	250V
0375	375mA	250V
0400	400mA	250V
0500	500mA	250V
0630	630mA	250V
0800	800mA	250V
1100	1.00A	250V
1125	1.25A	250V
1150	1.50A	250V
1160	1.60A	250V
1200	2.00A	250V
1250	2.50A	250V
1300	3.00A	250V
1315	3.15A	250V
1350	3.50A	250V
1400	4.00A	250V
1500	5.00A	250V
1630	6.30A	250V
1700	7.00A	250V

1800	8.00A	250V
2100	10.00A	250V
2120	12.00A	250V
2125	12.50A	250V
2150	15.00A	250V

6. MECHANICAL SPECIFICATIONS

Dimensions (Drawings not to scale)

6.1.1 Top View mm



★ :

100mA~7.0A : $\phi 0.65\text{mm}$

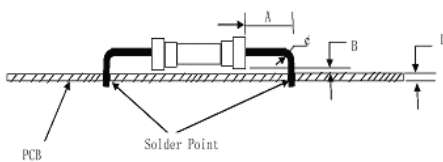
8.0A~12.5A : $\phi 0.80\text{mm}$

15.0A : $\phi 1.00\text{mm}$

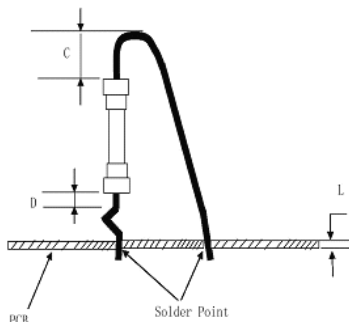
7. Installation and Soldering For Products

7.1 Forming and Installation .

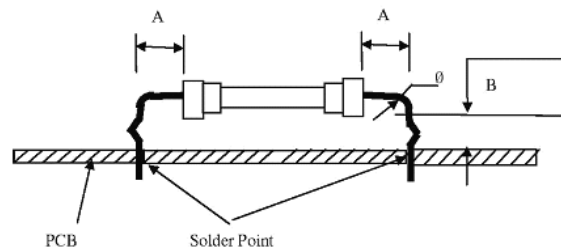
The part can be formed as below shapes to install on the PCB ,but the dimensions must meet below requirements ,and the lead cannot be bent more than 3 times.



P1



P2



P3

7.2 Lead Tensile

Lead Tensile: ,

The lead can be pulled with a force of 10+/-1N in the direction of axis in a period of 10+/-1Sec.

Lead bending :

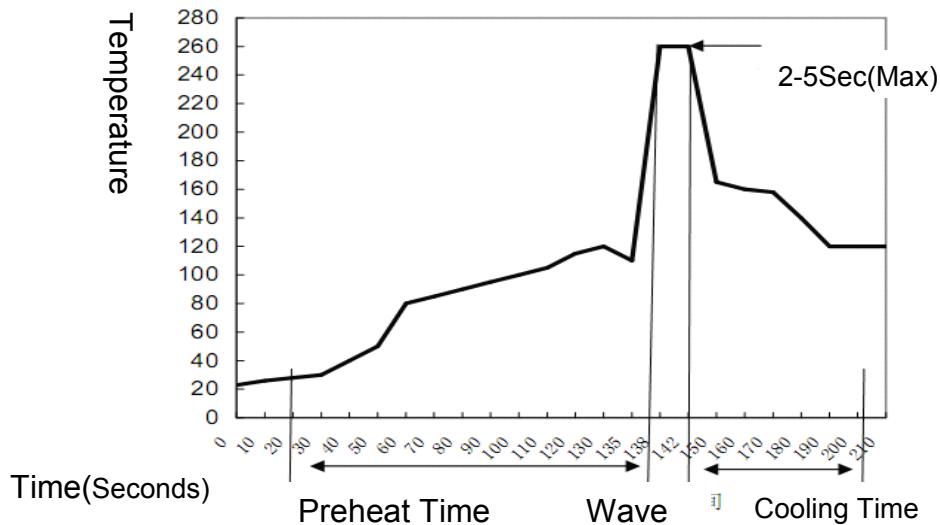
The lead can be bended two times with a force (Dia. Of Lead from 0.5mm to 0.8mm ,Force is 5+/-1N ;Dia. Of Lead from 0.8mm to 1.25mm ,Force is 10+/-1N).

7.3 Soldering Methods

Manual Solder--350°C, 1Sec. (By Soldering Iron)

Reflow Solder—Not Recommended.

Wave Soldering



8. Operating Temperature

-55°C to +125°C (consider de-rating)

9. ELECTRICAL SPECIFICATIONS

9.1 Time vs. Current Characteristic (Measured with a constant current power supply)

UL248-14

Rated Current	100%	135%	200%
250mA~15A	>4H	<1H	<120Sec.

9.2 Electrical characteristics

Rated Current	Amp Code	Voltage Rating	Breaking Capacity	Approvals				
				PSE	CCC	VDE	CQC	cURus
250mA	0250	250V	10KA/125V AC 100A/250VAC 50-60Hz	☐	☐	☐	☐	☐
300mA	0300	250V		☐	☐	☐	☐	☐
315mA	0315	250V		☐	☐	☐	☐	☐
350mA	0350	250V		☐	☐	☐	☐	☐
375mA	0375	250V		☐	☐	☐	☐	☐
400mA	0400	250V		☐	☐	☐	☐	☐
500mA	0500	250V		☐	☐	☐	☐	☒
630mA	0630	250V		☐	☐	☐	☐	☒
800mA	0800	250V		☐	☐	☐	☐	☒

1.00A	1100	250V		○	○	○	○	●
1.25A	1125	250V		○	○	○	○	●
1.50A	1150	250V		○	○	○	○	●
1.60A	1160	250V		○	○	○	○	●
2.00A	1200	250V		○	○	○	○	●
2.50A	1250	250V		○	○	○	○	●
3.00A	1300	250V		○	○	○	○	●
3.15A	1315	250V		○	○	○	○	●
3.50A	1350	250V		○	○	○	○	●
4.00A	1400	250V	10KA/125V AC 100A/250VAC 50-60Hz	○	○	○	○	●
5.00A	1500	250V		○	○	○	○	●
6.30A	1630	250V		○	○	○	○	●
7.00A	1700	250V		○	○	○	○	●
8.00A	1800	250V		○	○	○	○	●
10.00A	2100	250V		○	○	○	○	●
12.00A	2120	250V		○	○	○	○	●
12.50A	2125	250V		○	○	○	○	●
15.00A	2150	250V		○	○	○	○	●

Note:

- AC interrupting rating (Measured at rated voltage with a unity power factor)
- Typical Voltage Drop (Measured at rated current after temperature stabilizes)

9.3 AGENCY CERTIFICATION AND APPROVAL INFORMATION

Rating	1st. Cap marking	2nd. Cap marking
250mA	250mA 250V	ⓑ 512
300mA	300mA 250V	ⓑ 512
315mA	315mA 250V	ⓑ 512
350mA	350mA 250V	ⓑ 512
375mA	375mA 250V	ⓑ 512
400mA	400mA 250V	ⓑ 512
500mA	500mA 250V	ⓑ 512 cUR _{US}
630mA	630mA 250V	ⓑ 512 cUR _{US}
800mA	800mA 250V	ⓑ 512 cUR _{US}
1.00A	1A 250V	ⓑ 512 cUR _{US}
1.25A	1.25A 250V	ⓑ 512 cUR _{US}
1.50A	1.5A 250V	ⓑ 512 cUR _{US}
1.60A	1.6A 250V	ⓑ 512 cUR _{US}
2.00A	2A 250V	ⓑ 512 cUR _{US}
2.50A	2.5A 250V	ⓑ 512 cUR _{US}

3.00A	3A 250V	ⓑ 512 cUR _{US}
3.15A	3.15 250V	ⓑ 512 cUR _{US}
3.50A	3.5A 250V	ⓑ 512 cUR _{US}
4.00A	4A 250V	ⓑ 512 cUR _{US}
5.00A	5A 250V	ⓑ 512 cUR _{US}
6.30A	6.3A 250V	ⓑ 512 cUR _{US}
7.00A	7A 250V	ⓑ 512 cUR _{US}
8.00A	8A 250V	ⓑ 512 cUR _{US}
10.00A	10A 250V	ⓑ 512 cUR _{US}
12.00A	12A 250V	ⓑ 512 cUR _{US}
12.50A	12.5A 250V	ⓑ 512 cUR _{US}
15.00A	15A 250V	ⓑ 512 cUR _{US}

*Notion :The certification symbols and mark is based on actual goods

10. TEMPERATURE DERATING CURVE

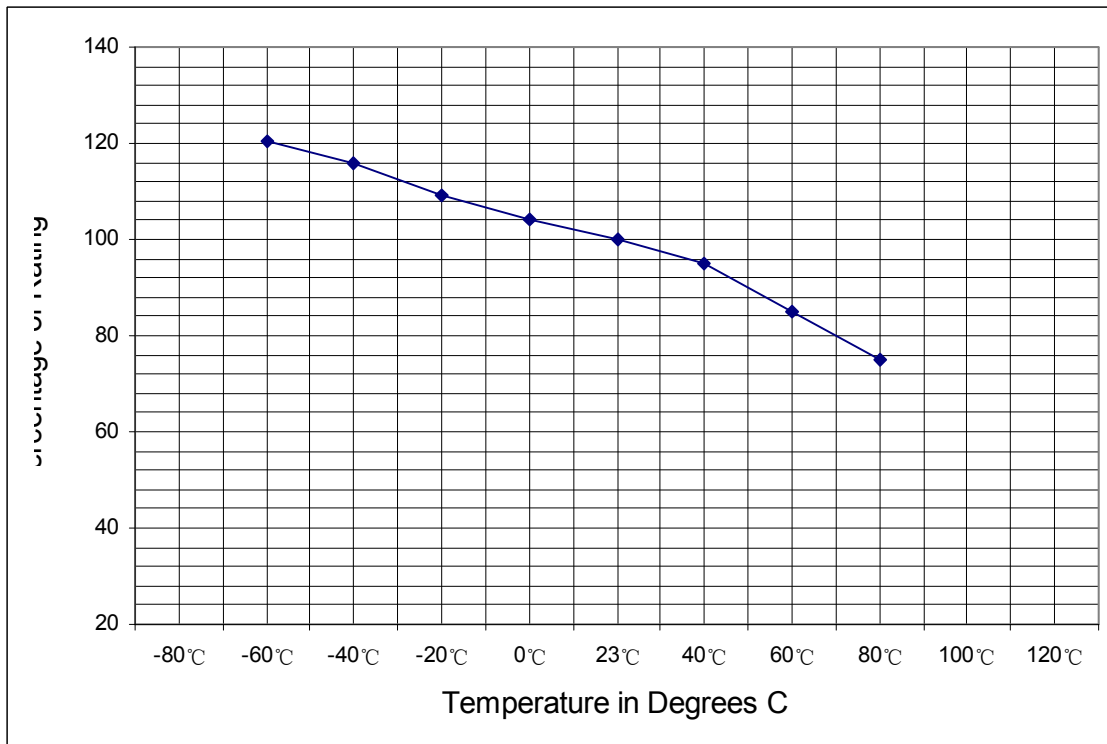


Chart of correction factor

ENVIRONMENTAL (RELIABILITY/QUALIFICATION) DATA

11.End



JDYX2.E300003 Fuses, Supplemental - Component

[Page Bottom](#)

Fuses, Supplemental - Component

[See General Information for Fuses, Supplemental - Component](#)

DONGGUAN BETTER ELECTRONIC TECHNOLOGY CO LTD
NAMEN VILLAGE
HENGKEN ADMINISTRATIVE ZONE
LIAOBU TOWN
DONGGUAN, GUANGDONG 523413 CHINA

E300003

Cat. No.	Size	Amps	V ac	Interrupting Rating (kA)
522	20 x 5 mm	1-15	125/250	10, 125 V ac, 0.100 A, 250 V ac
	20 x 5 mm	0.1-0.8	125/250	10, 125 V ac, 0.035 A, 250 V ac
611	6.35 x 32 mm	12-20	125/250	10, 125 V ac, 0.200, 250 V ac
332	11 x 3.9 mm	0.25-10.0	125/250	0.050, 125 Vac, 0.050, 250 Vac
521	20 x 5 mm	0.315-10.0	125/250	10, 125 V ac, 0.0100, 250 V ac
334	11 x 3.9 mm	0.25-10.0	125/250	0.050, 125 Vac, 50 A, 250 Vac
524	20 x 5 mm	0.5-16	125/250	10, 125 Vac, 1.5, 250 Vac
	20 x 5 mm	20-25	125/250	0.200, 125 Vac, 0.400, 250 Vac
316	12 x 3.9 mm	0.25-10	350	0.050, 350 Vac
523	20 x 5 mm	0.5-10	125/250	10, 125 Vac, 1.5, 250 Vac
614	31.8 x 6.35 mm	4-20	125/250	10, 125 Vac, 0.200, 250 Vac
	31.8 x 6.35 mm	25-30	125/250	0.400, 125 Vac, 0.100, 250 Vac
331	3.9 x 11.0 mm	0.25-10	125/250	0.050, 125 Vac, 0.050, 250 Vac
511	5 x 20 mm	0.5-0.8	125/250	10, 125 Vac, 0.035, 250 Vac
		1.0-3.15	125/250	10, 125 Vac, 0.100, 250 Vac
		4.0-6.3	125/250	10, 125 Vac, 0.200, 250 Vac
		7.0-15.0	125/250	0.100, 125 Vac, 0.100, 250 Vac
512	5 x 20 mm	0.5-0.8	125/250	10, 125 Vac, 0.035, 250 Vac
		1.0-6.3	125/250	10, 125 Vac, 0.100, 250 Vac
		7.0-15.0	125/250	0.400, 125 Vac, 0.100, 250 Vac
612	6.35 x 31.8 mm	10-20	125/250	0.400, 125 Vac, 0.200, 250 Vac
		25-30	125/250	0.400, 125 Vac, 0.100, 250 Vac
613	6.35 x 31.8 mm	10-20	125/250	0.400, 125 Vac, 0.200, 250 Vac
		25	125/250	0.400, 125 Vac, 0.100, 250 Vac

615	6.35 x 31.8 mm	0.5-10	660	0.300, 660 Vac
			1000	0.100, 1000 Vac
316	3.9 x 12 mm	0.25-10	250 350	0.150, 250 Vac 0.100, 350 Vac
061	1.6 x 0.81 x 0.48 mm	0.25-1 1.25-5	32 dc 32 dc	0.050, 32 Vdc 0.035, 32 Vdc
063	1.6 x 0.81 x 0.48 mm	1-5	32 dc	0.050, 32 Vdc
121	3.2 x 1.6 x 0.65 mm	0.25-3 4-7 10-20	32 ac/63 dc 32 ac/32 dc 24 ac/24 dc	0.050, 32 Vac/63 Vdc 0.050, 32 Vac/32 Vdc 0.150, 24 Vac/24 Vdc
124	3.2 x 1.6 x 0.65 mm	0.25-1.5	125 ac/125 dc	0.050, 125 Vac/125 Vdc
718	20 x 21.5 x 5.5 mm	1-40	32 dc	1.0, 32 Vdc
241	2.6 x 2.6 x 6.1 mm	2-5 6.3 7.0 8.0 10.0 12-15	125 ac/125 dc	0.050, 125 Vac 0.300, 125 Vdc 0.063, 125 Vac 0.300, 125 Vdc 0.070, 125 Vac 0.300, 125 Vdc 0.080, 125 Vac 0.300, 125 Vdc 0.100, 125 Vac 0.300, 125 Vdc 0.050, 125 Vac 0.300, 125 Vdc
123	3.2 x 1.6 x 0.65 mm	1-44.5-5	12 ac/63 dc 12 ac/32 dc	0.050, 12 Vac 0.050, 63 Vdc 0.100, 12 Vac 0.100, 32 Vdc
211 by followed by 1 or 2, followed by three digit number	3.0 x 7.2 mm	3.15-10 A 12-20 A	125 250 16 32	0.035, 125 V ac 0.035, 250 V ac 0.100, 16 V ac 0.050, 32 V ac
932 Series	4.0 x 8.5mm	0.1-6.3A	125/250/300 ac	100A/125 Vac 100A/250 Vac 50A/ 300 Vac
212 series	3.0 x 7.2 mm	3-6.3A	125 250	0.035, 125 V ac 0.035, 250 V ac

Marking: Company name or catalog designation.

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