



贝特卫士®

更好的电路安全卫士!
You build electronics, We safeguard them!

承 认 书

APPROVAL SHEET

编 号 No.	2110375200-B/5-B
日期 Date	2021.08.26

客 户 Customer	
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品 名 Product	2*7 Micro Cartridge Fuse
系 列 Series	211 Series

料号 Part No.	规格描述 Specification	备注 Remark
贝特电子 Betterfuse	Φ2*7mm Ceramic tube, Coating, Fast-Acting current fuse	
客 户 Customer		

环保特别提示 Special instructions for environmental protection
本产品:

供应商-贝特电子 Supplier-Betterfuse	零件承认章 Approval Signet	客 户 Customer	零件承认章 Approval Signet
制 作 Make			
审 核 Check			
确 认 Approval			

联络 Contact			
业务 Sales	电话 Telephone	手机 Cellphone	邮箱 E-mail
零件承认后敬请回签一份给我司留存, 或将承认后的封面传真 (0769-8352 1857) 至我司, 谢谢!			



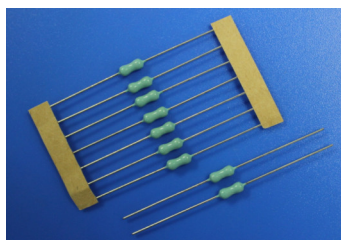
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1	2014.03.14	Draft	6	A/0	Runsong Zhong	Lianghua Guo
2	2014.06.21	Release Edition	10	A/1	Kings Luo	Wenhua Yan
3	2015.02.05	125mA I ² T change 0.0298 as 0.0256	10	A/2	Kings Luo	Wenhua Yan
4	2015.07.31	Update UL and UR certification		A/3	Jeffery	Gem Guo
5	2016.08.19	Add the 6A		A/4	Jeffery	Wenhua Yan
6	2018.09.20	Add the 6A		A/5	Xiang Xiong	Fei Gao
7	2018.09.20	Add the 3A		B/0	Xiang Xiong	Fei Gao
8	2019.01.08	Supplement small current information	6	B/1	Xiang Xiong	Fei Gao
9	2020.02.24	Update parameters		B/2	YaLan Wang	Fei Gao
10	2020.07.30	Update content		B/3	YaLan Wang	Fei Gao
11	2020.10.08	Add PSE certification	3,7	B/4	YaLan Wang	Fei Gao
12	2021.08.26	Add Voltage explain	4	B/5	Wenshan Chen	Fei Gao
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14						
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1. SCOPE AND DESCRIPTION



Following electronic product specifications apply to fuses of the 211 series. The 211 series is a fast-acting type subminiature fuse for over-current protection.

Due to its small size the 211 series' main applications are for flat-panel TVs, medical equipment, LCD monitors, lighting systems and industrial equipment.

2. GENERAL INFORMATION

General Description

The 211 series fast-acting fuse with low breaking capacity for use with printed circuit boards and is used in a variety of applications. This $\Phi 2.0\text{mm} \times 7\text{mm}$ device is constructed of a ceramic body with electro-plated brass end caps. The 211 series comes with 250 VAC rating and 50 Ampere breaking capacity, offers excellent quality and is 100% tested for cold resistance and precise length.

Detailed Features

- Subminiature fuse with fast-acting, low breaking capacity
- $\Phi 2.0\text{mm} \times 7\text{mm}$ physical dimensions
- Ceramic tube, encapsulated with epoxy coating and with nickel plated brass end caps
- Optional axial leads are $0.6\text{mm} \times 26.5\text{mm}$
- Protection against harmful over-currents in primary and secondary applications.
- Lead-free, Halogen-free, RoHS compliant
- Designed compliant to UL 248-14

3. AGENCY APPROVALS

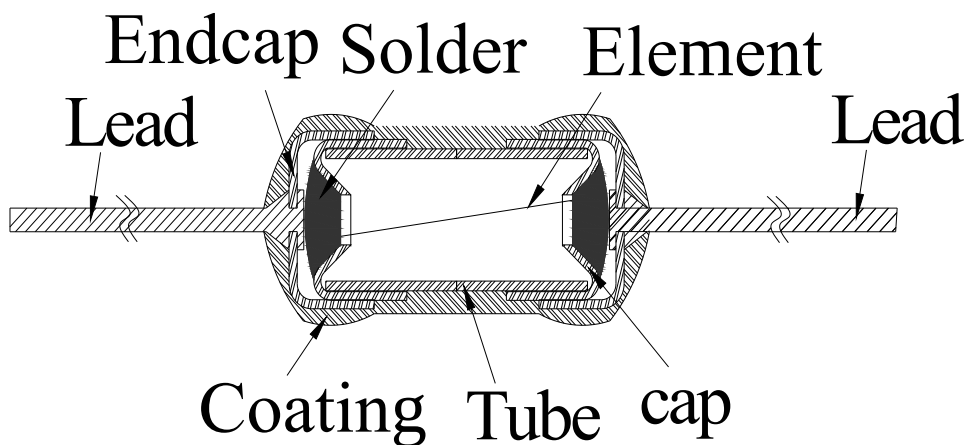
Agency	Agency File Number	Voltage / Current Rating
	E300003	125V/250V AC:100mA~2.5A
	E300003	125V/250V AC:3.15A~10A 16V/32V AC:12A~20A
	J 50242119	250V AC:250mA;315mA;400mA;500mA;630mA;800mA;1A;1.25A;1.6A;2A;2.5A;3.15A;4A
	PSE20021732	125V AC: 3A; 5A



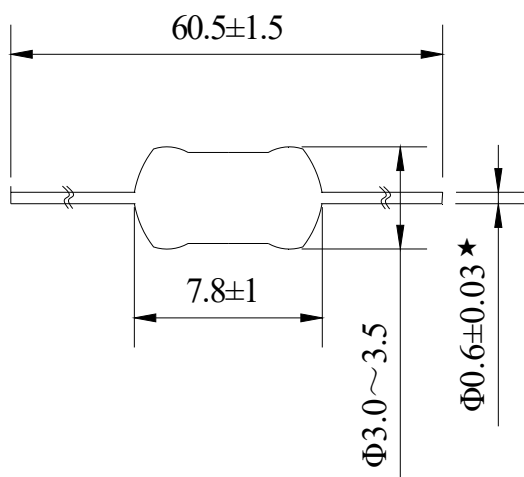
1	Product Series	211
2	Ampere Rating	375mA(see table 4.2 below)
3	Max. Voltage Rating	0: 32VAC (only by 12~20A) 1: 125VAC 2: 250VAC (only by 0.1A~10A)
4	Supplementary Code	See table 4.3 below



5. MECHANICAL SPECIFICATIONS



Dimensions (unit: mm)



100mA~6.3A: Φ0.6mm

8A~20A: Φ0.8mm

Operating Temperature:

-55°C to +125°C

Storage Conditions:

+10°C to +60°C

Relative humidity: ≤ 75% yearly average
without dew, maximum 30 days at 95%

Vibration Resistance:

24 cycles at 15 min. each (60068-6)

10-60Hz at 0.75mm amplitude

60-2000Hz at 10g acceleration



6. ELECTRICAL SPECIFICATIONS

Time vs Current Characteristics Table

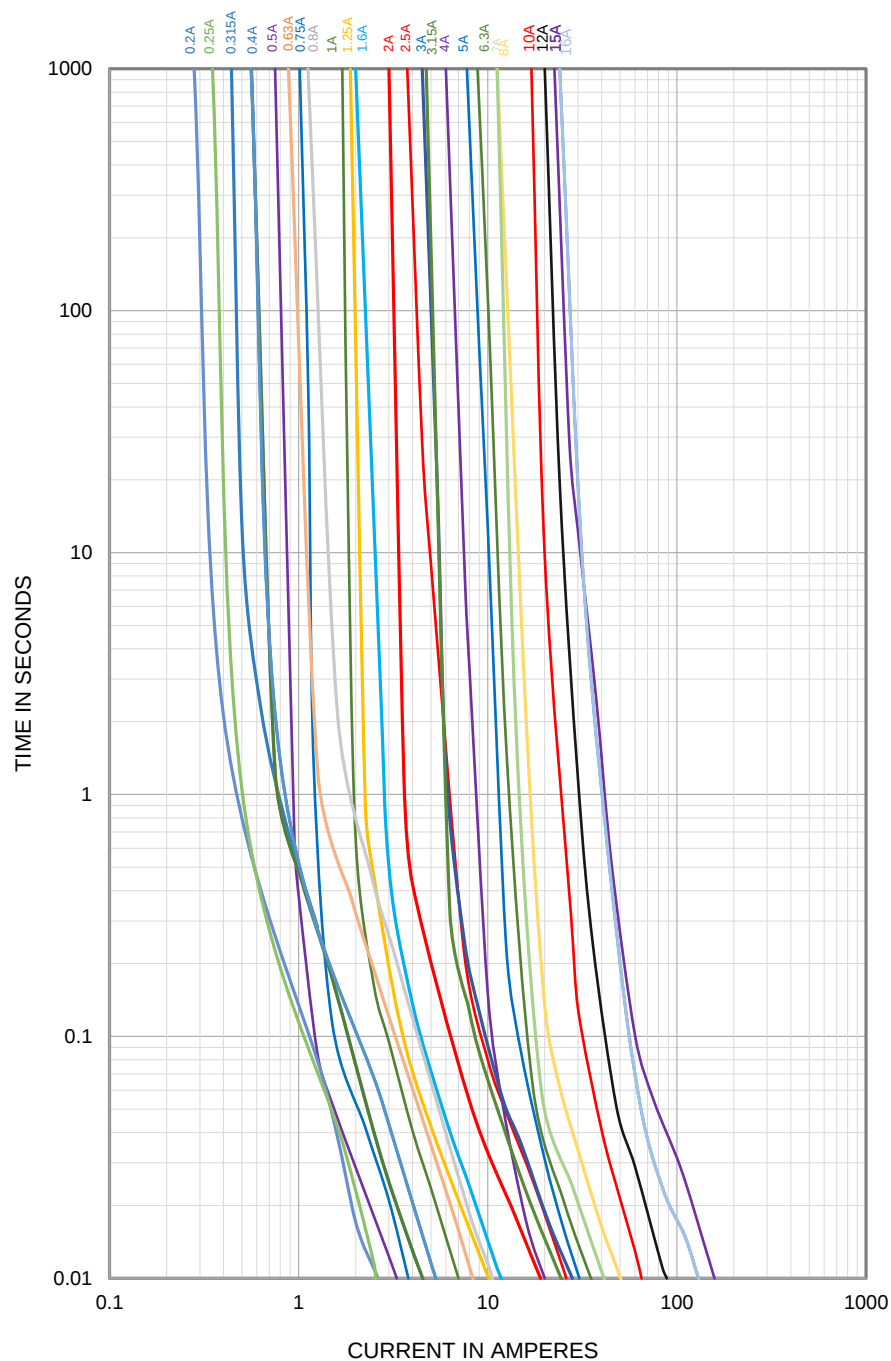
(measured with constant current power supply)

Time vs Current Characteristics: UL248-14

Rated Current	100%	200%
200mA~16A	>4h	<60s

Average Time Current (I-T) Curves

Average Current Curve(I-T Curve)





Electrical Characteristics at 25℃									
Amp code	Rated Current	Rated Voltage	Typical Cold Resistance (mΩ)	Nominal Melting I ² t (A ² sec)	Breaking Capacity	Approvals			
						cULus	cURus	TUV	PSE
0200	200mA	125V AC 250V AC	990	0.077	50A@250V AC 50A@125V AC	●	○	○	○
0250	250mA		680	0.082		●	○	●	○
0315	315mA		369	0.190		●	○	●	○
0375	375mA		340	0.200		●	○	○	○
0400	400mA		270	0.210		●	○	●	○
0500	500mA		201	0.480		●	○	●	○
0630	630mA		160	0.930		●	○	●	○
0750	750mA		87.0	0.093		●	○	○	○
0800	800mA		62.0	0.564		●	○	●	○
1100	1.00A		60.0	0.531		●	○	●	○
1125	1.25A		44.3	1.03		●	○	●	○
1150	1.50A		33.1	1.60		●	○	○	○
1160	1.60A		37.84	0.85		●	○	●	○
1200	2.00A		30.3	2.40		●	○	●	○
1250	2.50A		20.5	5.83		●	○	●	○
1300	3.00A		19.0	5.90	35A@250V AC 35A@125V AC	○	○	○	●
1315	3.15A		17.0	5.90		○	●	●	○
1400	4.00A		13.5	4.70		○	●	●	○
1500	5.00A		10.0	8.30		○	●	○	●
1630	6.30A		9.00	12.3		○	●	○	○
1700	7.00A		5.88	16.6		○	●	○	○
1800	8.00A		5.88	21.0		○	●	○	○
2100	10.00A		5.05	41.0		○	●	○	○
2120	12.00A	32V AC 16V AC	3.50	78.32	50A@32V AC 100A@16V AC	○	●	○	○
2150	15.00A		3.01	249.6		○	●	○	○
2160	16.00A		2.85	169.49		○	●	○	○

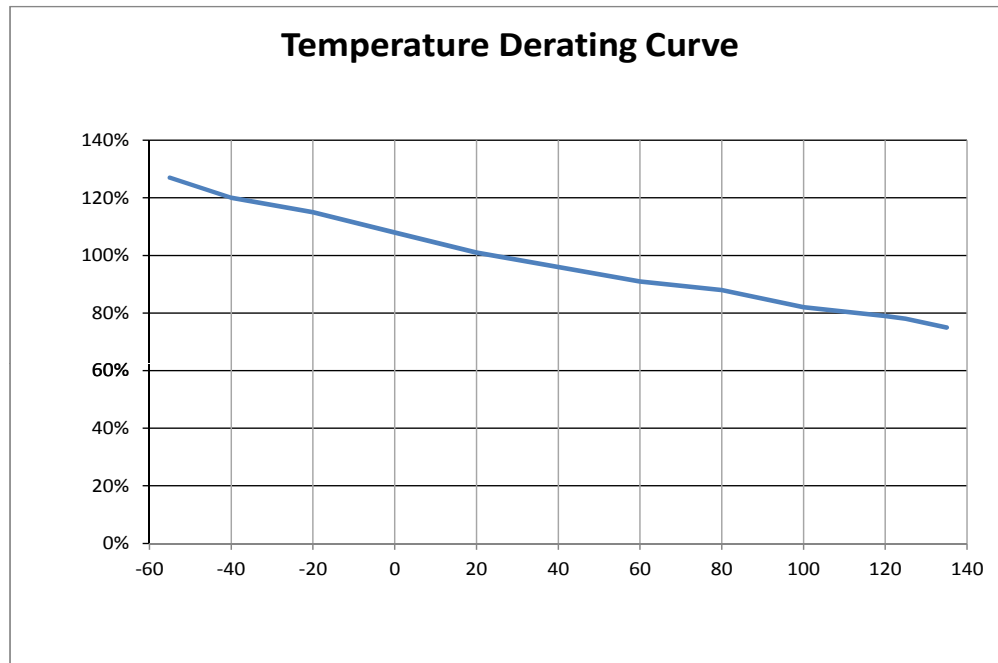
Note: (1) Permissible continuous operating current is 100% at ambient temperature of 23℃ (73.4°F)

(2) The cURus and cULus certification for 100mA~10A only by 125V and 250V AC, for 12A~16A only by 16V and 32V AC; the TUV certification only by 250V AC.

(3) The current values used for calculating I²T should be within the standard range of 8ms ~ 10ms.



Temperature Derating Curve



$$\text{Calculation for ideal fuse selection} = \frac{\text{Operating Current (A)}}{\text{Rating (\%} \times 0.75)}$$

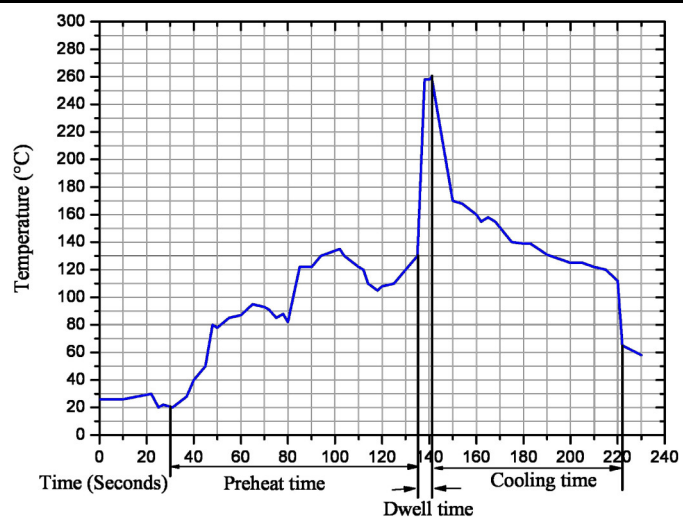
7. SOLDERING PARAMETERS

260°C. ≤5 sec (Wave Soldering)

350°C. ≤3 sec (Hand Soldering)

Soldering Peak:

260°C - 10 sec (IEC 60068-20)



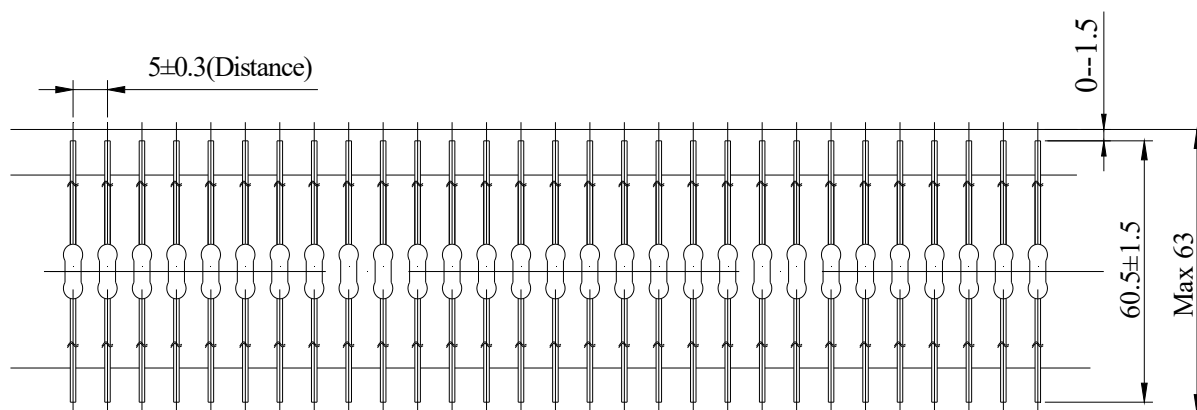
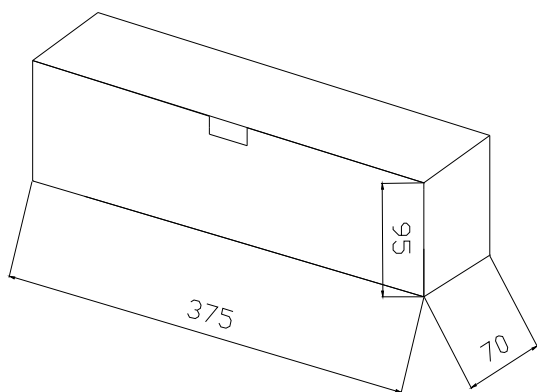
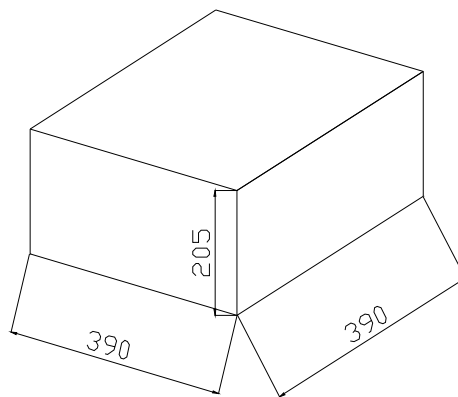
8. ORDERING INFORMATION

The following information are necessary in order to place your order with us correctly:

Series	Amp Code	Supplementary Code	Qty
211			

**9. PACKING INFORMATION****Taping details****Packing**

Unit:mm

**Inner Box****Master Carton**

Net Weight (3000pcs+Tapping)	890g	Master Carton Weight	10.7kg
Qty per box	3000pcs	Qty per carton	30000pcs

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