承　　认　　书
APPROVAL　SHEET

编 号 No.	6931100700-A/5-B
日期 Date	2020.07.03

客　户 Customer	

品　名 Product	**6*30 Miniature Cartridge Fuse**
系　列 Series	**693 Series**

料号 Part No.		规格描述 Specification	备注 Remark
贝特电子 Betterfuse		Φ6.35*31.8mm Ceramic tube,Medium High voltage,Fast-Acting current fuse 1000VAC/DC 1KA	
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		东莞市贝特电子科技股份有限公司		
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！			

Document Record

No.	Date	Modified Content	Page	Edition	Prepared/modified by	Checked by
1	2014.12.28	Draft		A/0	Jeffery	Lin Gao
2	2016.03.31	Update the IT Curve		A/1	Jeffery	Helge
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1. SCOPE AND DESCRIPTION

Following electronic product specifications apply to fuses of the 693 series. The 693 series is a fast-acting type miniature fuse for over-current protection.

It mains application for digital measuring instruments short circuit protection.

2. GENERAL INFORMATION

The 693 series is fast-acting , high breaking capacity fuse.

Detailed Features

- Fast-Acting, high breaking capacity under 1000VAC/DC.
- Φ6x30mm physical size
- Special engineering material tube, Silver plated copper cap construction.
- Designed to UL248-1.
- RoHS compliant ,Halogen free ,Lead free.

3. AGENCY APPROVALS

Agency	Agency File Number	Ampere/ Voltage Range
c UL us	E300003	1000VAC:100mA~12A 1000VDC:100mA~12A
	R50441214	600V / 1000V AC/DC:200mA,250mA,400mA, 500mA,600mA,800mA,

4. PART NUMBERING SYSTEM

4.1 Part Number

Example: 6931100700

693	1100	7	00
↓	↓	↓	↓
1	2	3	4

1 .Product Series …….....	693
2 .Ampere Rating …….....	1A (see table 4.3 below)
3 .Max. Voltage Rating ……	7 –1000V
4 .Supplementary Code ……..	See table 4.2 below

4.2 Supplementary Table

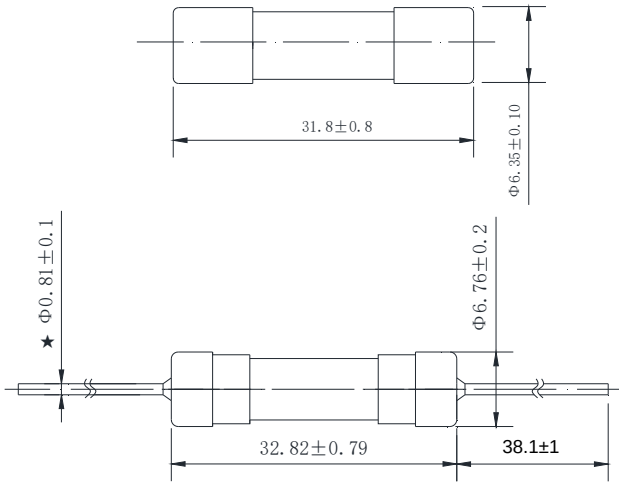
CODE	DESIGNATION
00	Lead Free
01	Axial Lead

4.3. Ampere/Voltage Rating Table

AMP CODE	CURRENT RATING	VOLTAGE RATING
0200	200mA	1000V AC, 1000V DC
0250	250mA	1000V AC, 1000V DC
0315	315mA	1000V AC, 1000V DC
0400	400mA	1000V AC, 1000V DC
0500	500mA	1000V AC, 1000V DC
0600	600mA	1000V AC, 1000V DC
1100	1.00A	1000V AC, 1000V DC
1125	1.25A	1000V AC, 1000V DC
1160	1.60A	1000V AC, 1000V DC
1200	2.00A	1000V AC, 1000V DC
1250	2.50A	1000V AC, 1000V DC
1300	3.00A	1000V AC, 1000V DC

5. CONSTRUCTION AND MECHANICAL CHARACTERISTICS

Dimensions (unit: mm)



Operating Temperature:

-55°C to 125°C

Storage Conditions:

+10℃ to +60℃

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

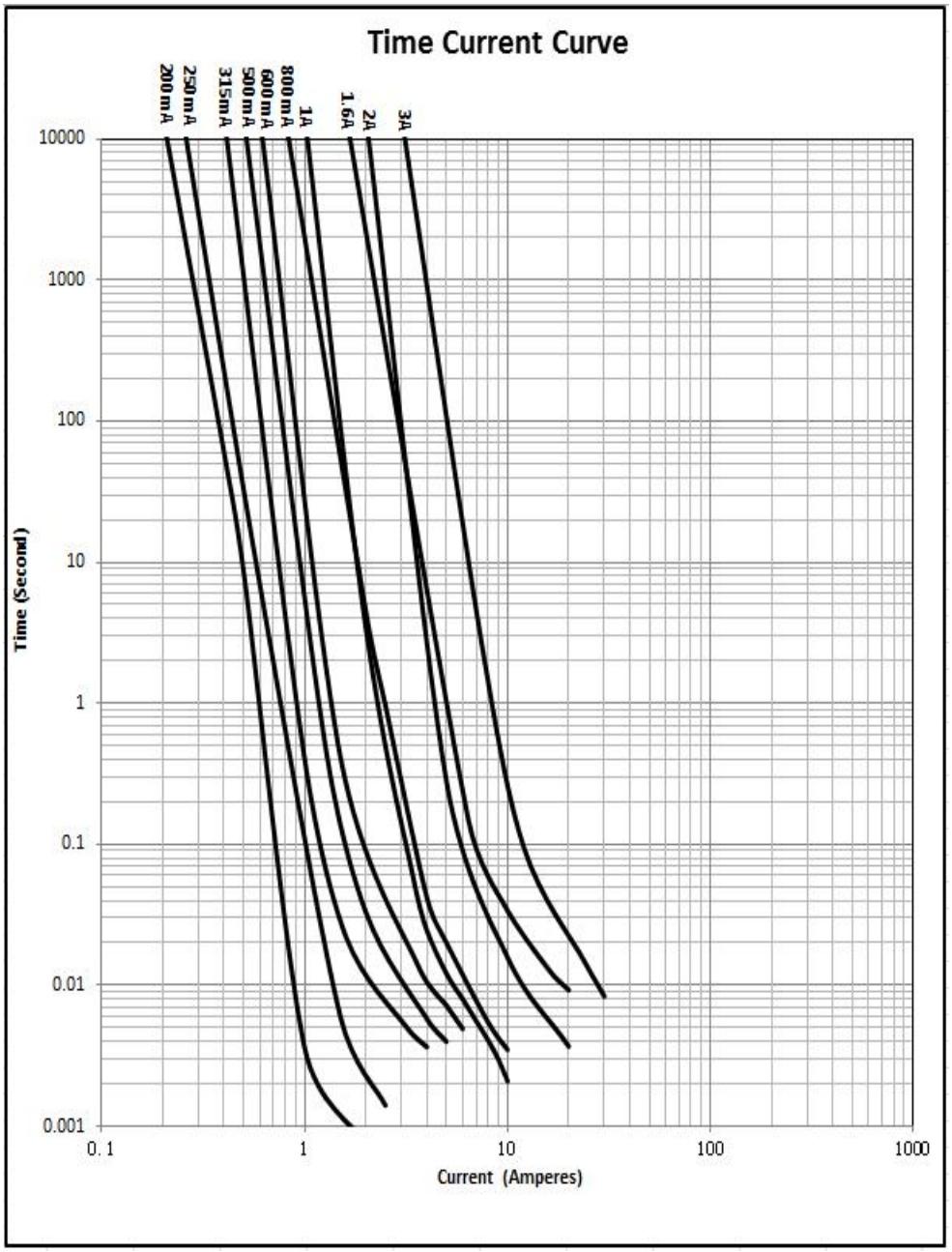
6. ELECTRICAL SPECIFICATIONS

Time vs Current Characteristics Table

(measured with constant current power supply) (according to UL248-1)

Time vs Current Characteristics: UL248 - 1		
Rated Current	100%	250%
200mA~3A	>4H	<120s

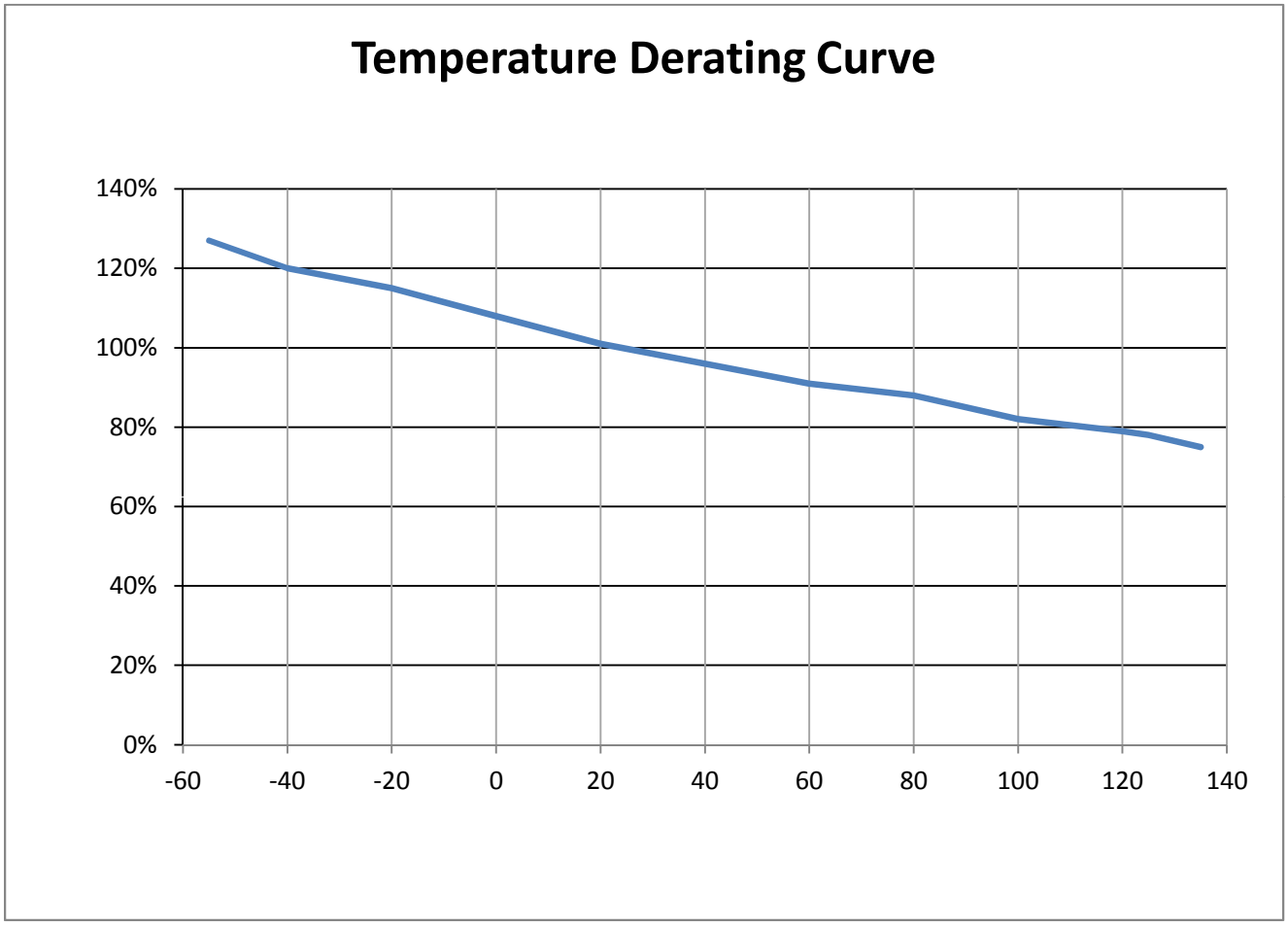
Average Time Current (I-T)Curves



Electrical characteristics

Electrial Characteristics at 25℃								
Amp Code	Rated Current	Rated Voltage	Typical Voltage Drop (mV)	Breaking Capacity	Typical Melting I²T (A²s)	Cold Resistance (mΩ)	Approvals	
							cURus	TUV
0200	200mA	1000V DC 1000V AC	916	10KA@1000VDC 10KA@1000VAC	0.0031	2800~5200	●	●
0250	250mA		850		0.009	1958~3637	●	●
0315	315mA		900		0.050	1330~2470	●	○
0400	400mA		860		0.059	1340~2489	●	●
0500	500mA		600		0.081	840~1560	●	●
0600	600mA		550		0.178	743~1382	●	●
0800	800mA		510		0.256	369~686	●	●
1100	1.00A		560		0.210	318~592	●	○
1125	1.25A		550		3.00	187~348	●	○
1160	1.60A		350		3.72	124~231	●	○
1200	2.00A		400		1.50	109~203	●	○
1250	2.50A		300		4.50	65.1~120.9	●	○
1300	3.00A		270		7.54	44.4~82.6	●	○

Note:
(1) DC cold resistance are measured at <10% of rated current in ambient temperature of 25℃.
(2) Typical pre-arcing I2t are measured at 10In current.



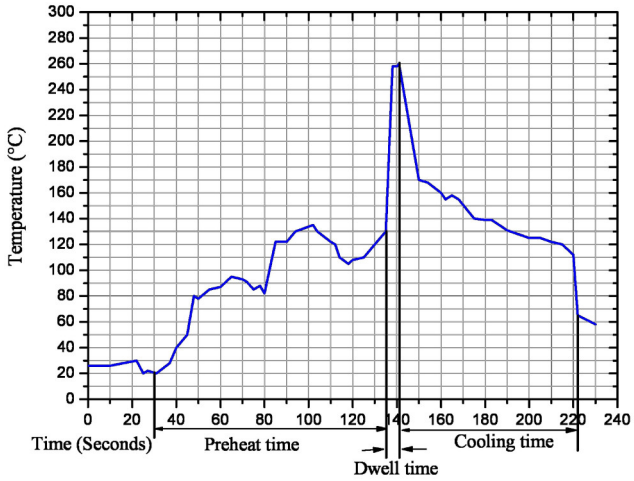
7.SOLDERING PARAMETERS

260℃.≤5 sec (Wave Soldering)

350℃.≤3 sec (Hand Soldering)

Soldering Peak:

260℃ - 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
693			