承　　认　　书
APPROVAL SHEET

编 号 No.	1231150000-B/4-B
日期 Date	2020.06.28

客　户 Customer	

品　名 Product	**1206 Size Chip Fuse**
系　列 Series	**123 Series**

料号 Part No.		规格描述 Specification	备注 Remark
贝特电子 Betterfuse		1206 Low BC,High I2T,Time-Lag 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		东莞市贝特电子科技股份有限公司		
审 核 Check				
确 认 Approval				

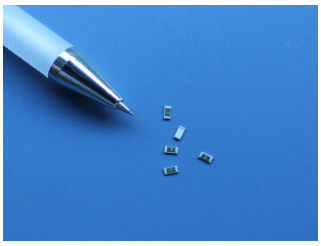
联络 Contact			
业务 Sales	电话 Telephone	手机 Cellphone	邮箱 E-mail
零件承认后敬请回签一份给我司留存，或将承认后的封面传真（0769-8352 1857）至我司，谢谢！			

Document Record

No.	Date	Modified Content	Page	Edition	Prepared/modified by	Checked by
1	2013.09.15	Draft	9	B	Runsong Zhong	Lianghua Guo
2	2014.07.19	Release Edition	9	B/0	Kings Luo	Wenhua Yan
3	2015.7.30	Change the 2A I2T to 0.227, 2.5A I2T to 0.384; Update UR certification	8	B/1	Jeffery	Gem Guo
4	2015.8.17	Change 123 series I2T	6	B/2	Jeffery	Gem Guo
5	2016.05.28	Update the resistance and I2T value	7	B/3	Jeffery	Helge
6	2020.06.28	Update temperature derating chart		B/4	YaLan Wang	Fei Gao
7						
8						
9						
10						

TABLE OF CONTENTS

1. SCOPE AND DESCRIPTION



Following electronic product specifications apply to SMD fuses of the 123 series. The 123 series is a time-lag type subminiature fuse for over-current protection.

With their small size and layer type, 123 SMD fuses are ideal for industrial products. They are widely used in cellphones, DVD players, battery packs, hard disk drives and digital cameras.

2. GENERAL INFORMATION

General Description

The 123 SMD fuses stand out due to their ultra-small size and excellent electrical performance, reliability and quality. The solder-free design provides outstanding on-off and temperature cycling characteristics during operation and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.

Detailed Features

- High inrush current withstanding capability
- Compatible with reflow and wave soldering
- Ceramic and glass construction
- Excellent environmental integrity
- AEC-Q200 Automotive Grade Certified
- Lead-free, Halogen-free, RoHS compliant
- Designed to UL 248-14

3. AGENCY APPROVALS

Agency	Agency File Number	Voltage / Ampere Range
c UL us	E300003	AC 12V : 1A~5A DC 63V : 1A~4A DC 32V : 4.5A~5A

4. PART NUMBERING SYSTEM

4.1 Part Number

Example: 1231150000

123	1150	000
↓	↓	↓
1	2	3

1 …….. Product Series …….. 123(1206 size)
2 ……Current Rating …….. 1.5A (see table 4.3 below)
4 …….. Supplementary Code …….(see table 4.2 below)

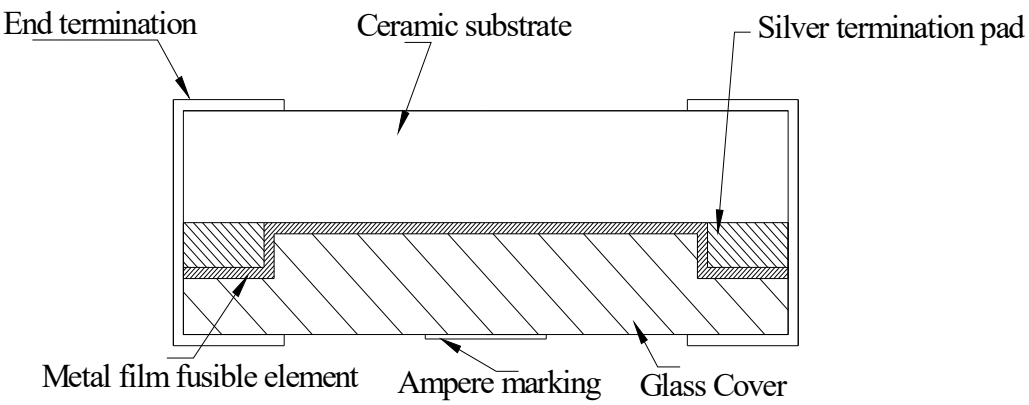
4.2 Supplementary Code Table

CODE	DESIGNATION
000	Tape-and-reel

4.3. Current / Voltage Rating Table

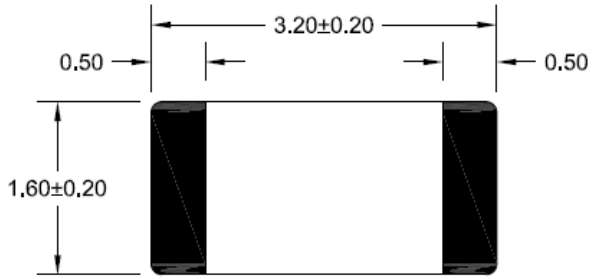
AMP CODE	CURRENT RATING	VOLTAGE RATING
1100	1.00A	72VDC/63VDC
1125	1.25A	72VDC/63VDC
1150	1.50A	72VDC/63VDC
1175	1.75A	72VDC/63VDC
1200	2.00A	72VDC/63VDC
1250	2.50A	72VDC/63VDC
1300	3.00A	72VDC/63VDC
1350	3.50A	72VDC/63VDC
1400	4.00A	72VDC/63VDC
1450	4.50A	24V/32VDC
1500	5.00A	24V/32VDC

5. MECHANICAL SPECIFICATIONS

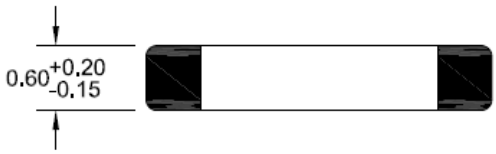


Dimensions (units: mm)

Top view

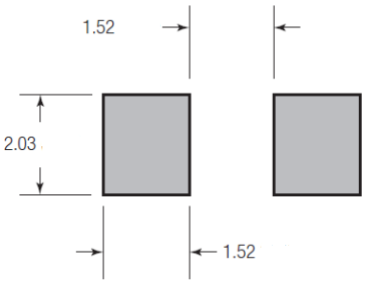


Side view



Recommended land pattern

Unit: mm



Operating Temperature:

-55°C to +150°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

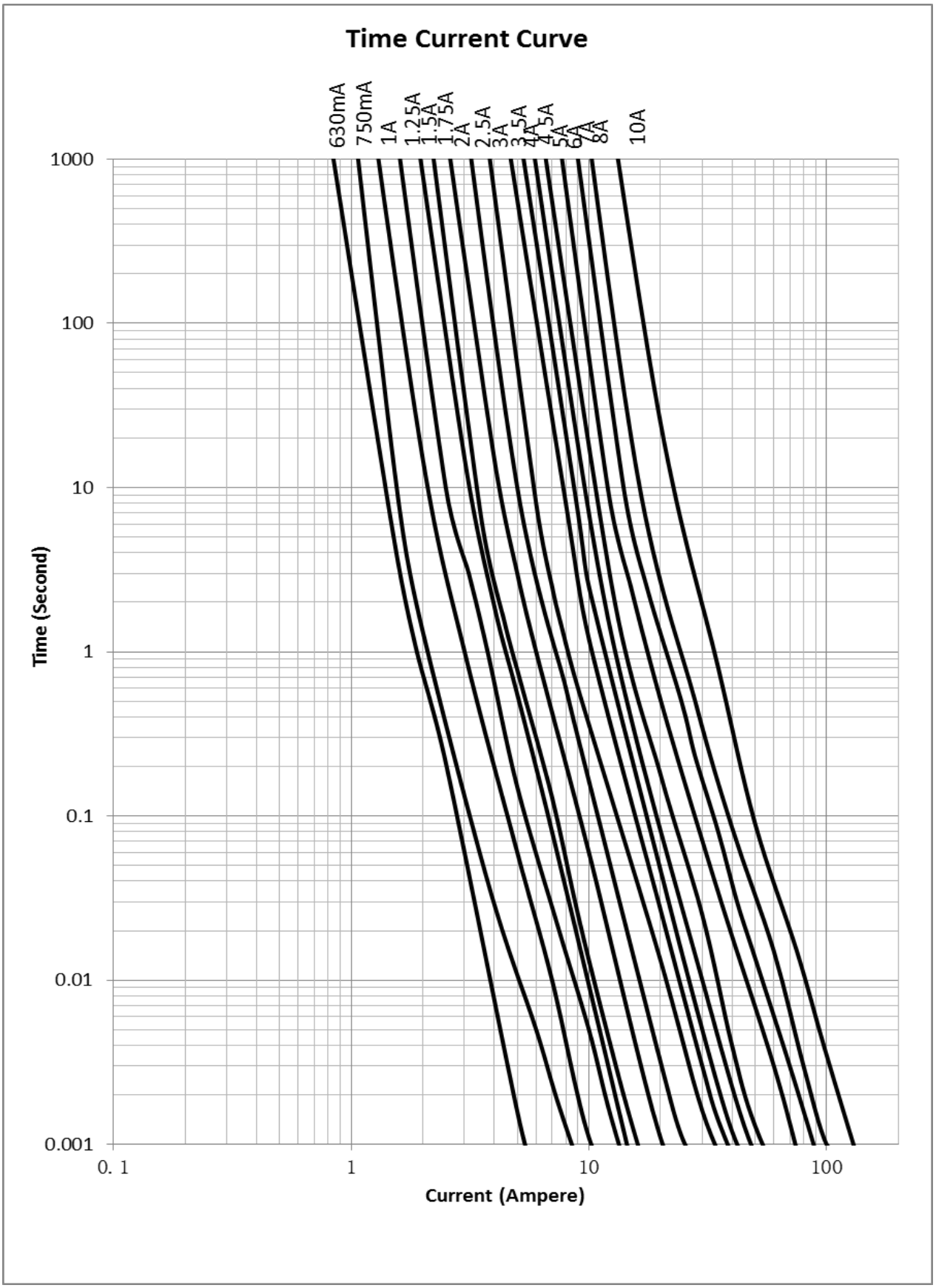
6. ELECTRICAL SPECIFICATIONS

Time vs Current Characteristics Table

(measured with constant current power supply)

Time vs Current Characteristics: UL248-14				
Rated Current	100%	250%	300%	1000%
1A~3A	>4h	<5s	0.1s~3s	0.2ms~20ms
3.5A~5A	>4h	<5s	0.1s~3s	0.2ms~20ms

Average Time Current (I-T) Curves



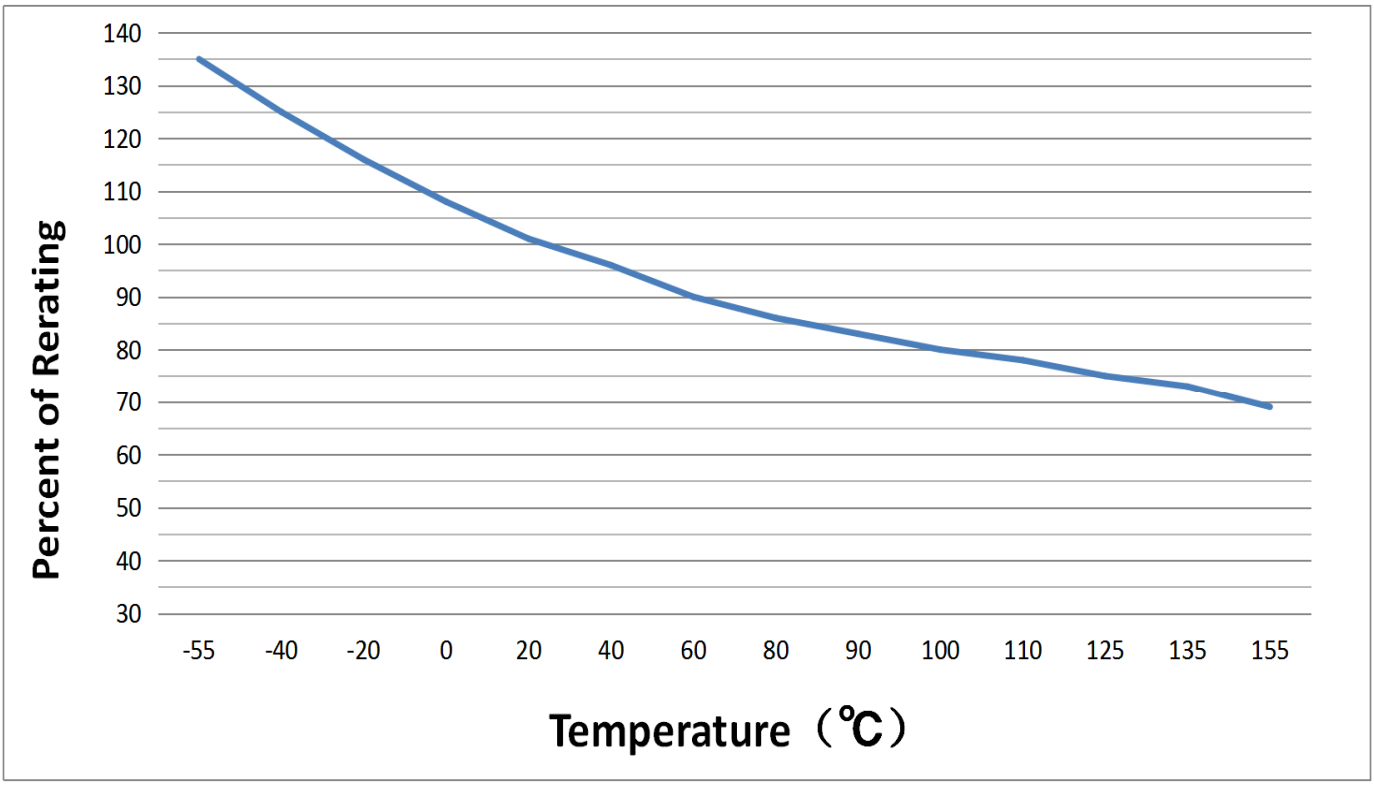
Electrial Characteristics at 25℃								
Amp Code	Rated Current	Rated Voltage	Typical Voltage Drop Max(mV)	Breaking Capacity	Typical Melting I²T (A²s)	Typical cold Ressistance (mΩ)	Alpha Mark	Approvals
								cURus
1100	1.00A	72VDC 63VDC	530	50A@72V DC 50A@63V DC	0.15	390~540	H	•
1125	1.25A		510		0.18	270~380	H	•
1150	1.50A		468		0.21	180~250	K	•
1175	1.75A		455		0.26	150~210	E	•
1200	2.00A		320		0.43	100~140	N	•
1250	2.50A		250		0.72	60~90	O	•
1300	3.00A		197		1.75	38~58	P	•
1350	3.50A		185		2.15	30~43	R	•
1400	4.00A		175		2.65	26~40	S	•
1450	4.50A	32V DC 24V DC	165	50A@32V DC 300A@24V DC	2.8	20~35	X	•
1500	5.00A		150		4.15	18~28	T	•

1. DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)
2. DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25℃
3. Typical Pre-arcing I^2t are measured at 10In Current

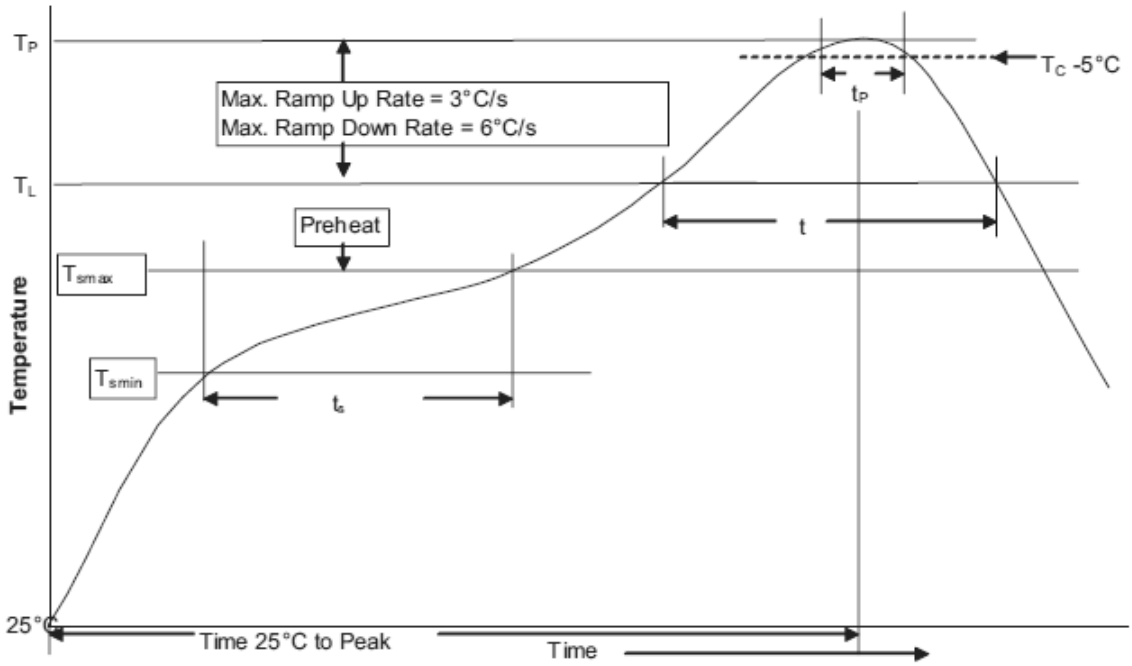
Temperature Derating Curve

Normal ambient temperature: 23+/-3℃

Operating temperature: -55 ~ 150℃, with proper correction factor applied



7. SOLDERING PARAMETERS



1.Infrared Reflow:

Temperature:260℃

Time:5sec Max.

Recommend reflow profile

2.Wave Soldering

Reservoir Temperature:260℃

Time in Reservoir:10sec Max.

Profile Feature		Lead (Pb)free solder
Average Ramp-UP Rate（Tsmax to Tp)		3℃/s Max.
Preheat and soak	Temperature min.(Tsmin)	150℃
	Temperature max.(Tsmax)	200℃
	Time (Tsmin to Tsmax)(ts)	60~120s
Liquidous temperature(TL) Time at liquidous(tL)		217℃ 60~150s
Peak package body temperature(Tp)		260℃
Time (tP) within 5℃ of the specified classification temperature (Tc)		30s
Average ramp-down rate (Tp to Tsmax)		6℃/s Max.
Time (25℃ to Peak Temperature)		8 Minutes Max.

8. ORDERING INFORMATION

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

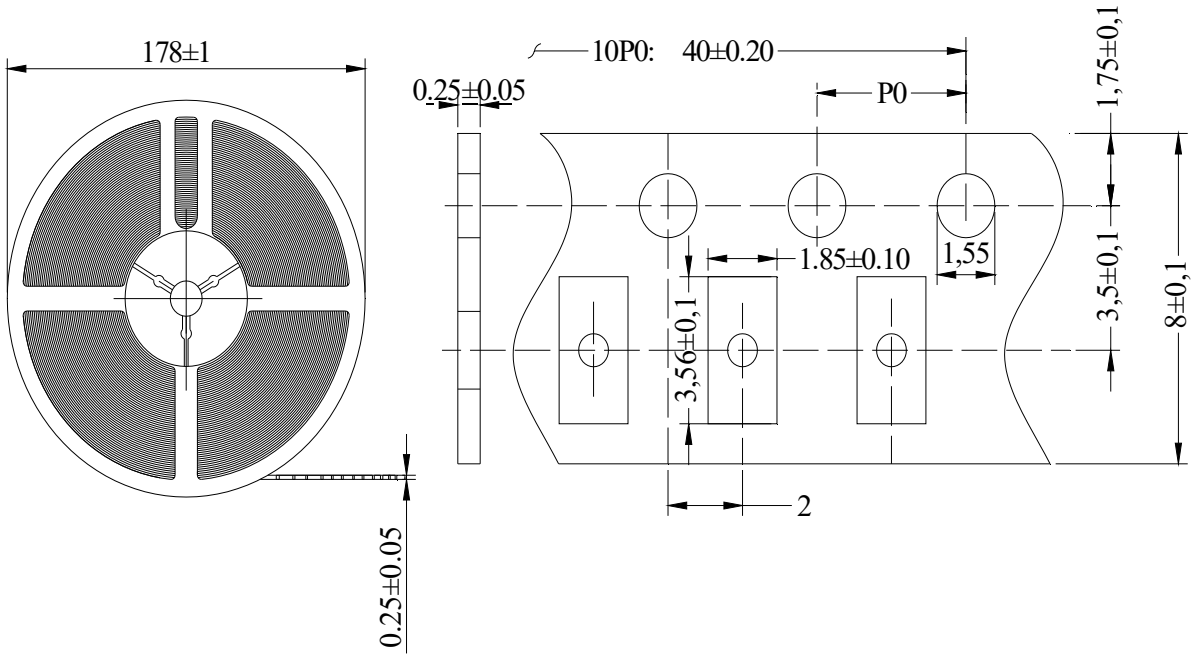
Series	Amp Code	Supplementary Code	Qty
123			

9. PACKING INFORMATION

Taping details

Packing

Unit:mm



东莞市贝特电子科技股份有限公司
Room 601 of 16 Block, Xinzhuyuan, No.4，Xinzhu Road, Songshanlake Hightech Industrial Development Zone, Dongguan City, Guangdong P.R.C
中国广东省东莞市松山湖国家高新技术产业开发区新竹路 4 号新竹苑 16 座办公 601

Tel: +86 769-2307 8212 Fax: +86 769-8352 1857

Web: **www.betterfuse.com** Email: info@betterfuse.com

10. APPENDIX

ONLINE CERTIFICATIONS DIRECTORY

JDYX2.E300003
Fuses, Supplemental - Component

Page Bottom

Fuses, Supplemental - Component

See General Information for Fuses, Supplemental - Component

DONGGUAN BETTER ELECTRONICS TECHNOLOGY CO LTD E300003
Rm 601 Of 16 Blk
Xinzhuyuan No 4 Xinzhu Rd
Songshanlake Hightech Industrial Development Zone
Dongguan, Guangdong 523808 CHINA

Supplemental micro fuses

Cat. No.	Size mm(in)	Amps (A)	Volts (V)	Interrupting Rating (A)
061	1.6 x 0.81 x 0.48 (0.06 x 0.03 x 0.02)	0.25 - 1	32Vdc	50
		1.25 - 5	32Vdc	35
063	1.6 x 0.81 x 0.48 (0.06 x 0.03 x 0.02)	1 - 5	32Vdc	50
121	3.2 x 1.6 x 0.65 (0.13 x 0.06 x 0.03)	0.25 - 3	32Vac	50
		0.25 - 3	63Vdc	50
		4 - 7	32Vac	50
		4 - 7	32Vdc	50
		10 - 20	24Vac	150
		10 - 20	24Vdc	150
123	3.2 x 1.6 x 0.65 (0.13 x 0.06 x 0.03)	1 - 4	12Vac	50
		1 - 4	63Vdc	50
		4.5 - 5	12Vac	100
		4.5 - 5	32Vdc	100

Marking: Company name and model designation.
Last Updated on 2016-04-21

Questions? Print this page Terms of Use Page Top