承　　认　　书
APPROVAL　SHEET

编 号 No.	0611150000-C/0-B
日期 Date	2020.07.12

客　　户 Customer	

品　　名 Product	**0603 Size Chip Fuse**
系　　列 Series	**061series**

料号 Part No.		规格描述 Specification	备注 Remark
贝特电子 Betterfuse		0603 Size Low BC 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！			

Document Record						
No.	Date	Modified Content	Page	Edition	Prepared/modified by	Checked by
1	2013.09.17	Draft	9	B/0	Runsong Zhong	Lianghua Guo
2	2014.07.21	Release Edition	9	B/1	Kings Luo	Wenhua Yan
3	2015.08.04	Update UR certification		B/2	Jeffery	Gem Guo
4	2015.11.12	Add the packing quantity	9	B/3	Jeffery	Lin Gao
5	2016.01.28	Update the soldering curve	8	B/4	Jeffery	Lin Gao
6	2020.06.07	Update temperature derating chart		B/5	YaLan Wang	Fei Gao
7	2020.07.12	Update content		C/0	YaLan Wang	Fei Gao
8						
9						
10						
11						

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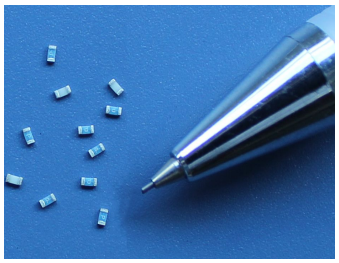
1. SCOPE AND DESCRIPTION



Following electronic product specifications apply to chip fuses of the 061 series. The 061 series is a fast-acting type chip fuse for over-current protection.

With their small size and layout, 061 chip 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 061 chip 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 chip fuses more heat and shock tolerant than typical subminiature fuses.

Detailed Features

- Rapid interruption of excessive current
- Compatible with reflow and wave soldering
- Ceramic and glass construction
- Excellent environmental integrity
- One time positive disconnect
- Lead-free, Halogen-free, RoHS compliant
- Designed compliant to UL 248-14

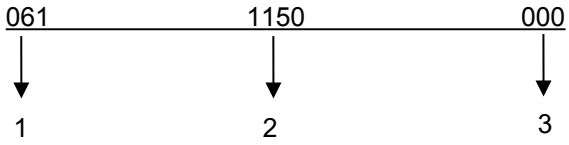
3. AGENCY APPROVALS

Agency	Agency File Number	Ampere/ Voltage Range
c UL us	E300003	32VDC: 250 mA~5A

4. PART NUMBERING SYSTEM

4.1 Part Number

Example: 0611150000



1 .Product Series 061
2 .Ampere Rating ..... 1.5A (see table 4.3 below)
3 .Supplementary Code ..... See table 4.2 below

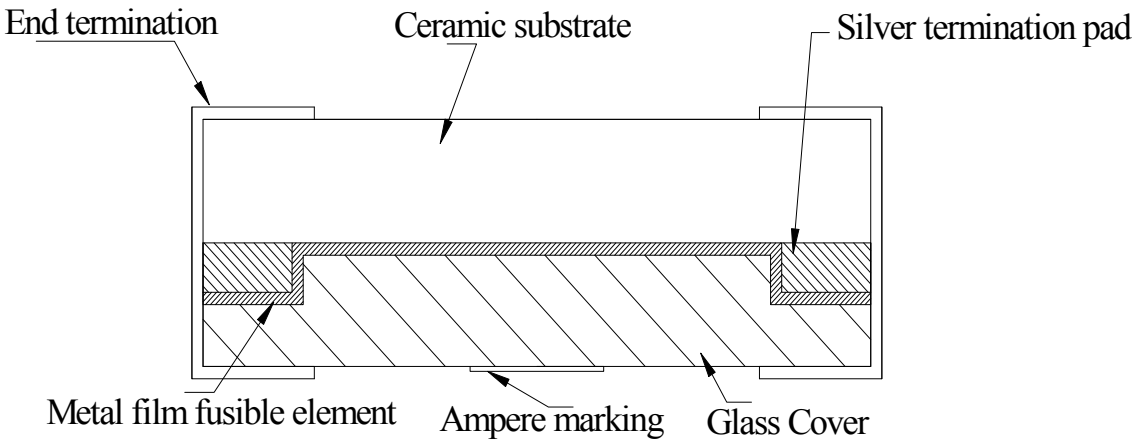
4.2 Supplementary Code Table

CODE	DESIGNATION
000	Tape-and-reel

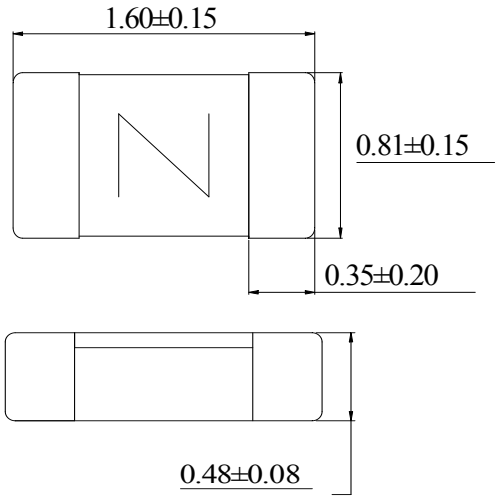
4.3. Ampere Rating Table

AMP CODE	AMPERE RATING	VOLTAGE RATING
0250	250mA	32V DC
0375	375mA	32V DC
0500	500mA	32V DC
0750	750mA	32V DC
1100	1.00A	32V DC
1125	1.25A	32V DC
1150	1.50A	32V DC
1200	2.00A	32V DC
1250	2.50A	32V DC
1300	3.00A	32V DC
1350	3.50A	32V DC
1400	4.00A	32V DC
1500	5.00A	32V DC

5. MECHANICAL SPECIFICATIONS



Dimensions (unit: mm)



Operating Temperature:

-55°C to 150°C

Storage Conditions:

+10℃ to +60℃

Relative humidity: ≤ 75% yearly aver

without dew, maximum 30 days at 95

Vibration Resistance:

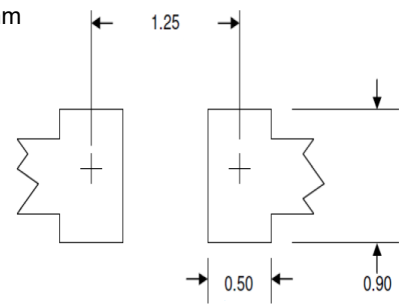
24 cycles at 15 min. each (60068-6)

10-60Hz at 0.75mm amplitude

60-2000Hz at 10g acceleration

Recommended land pattern

unit:mm



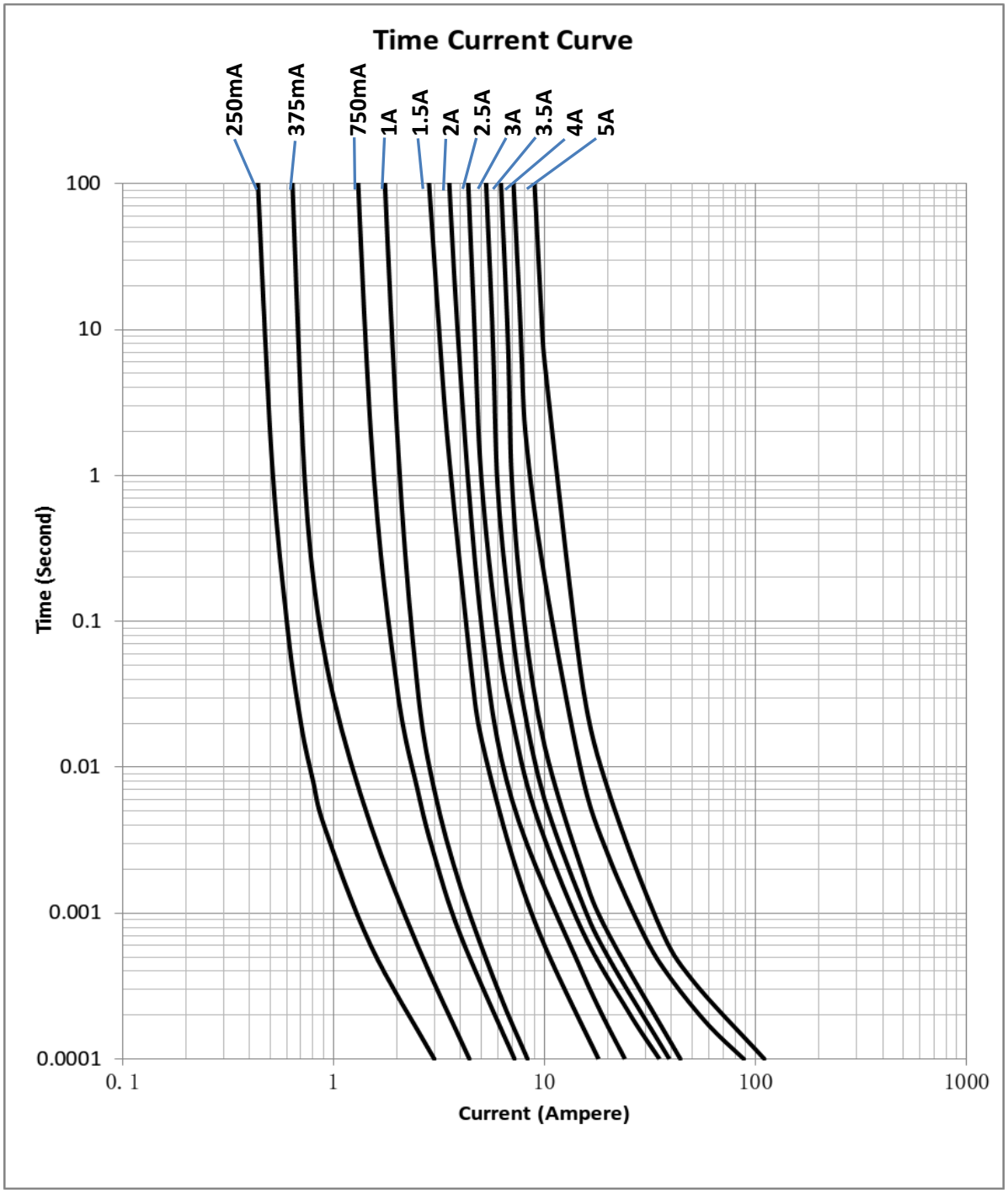
6. ELECTRICAL SPECIFICATIONS

Time vs Current Characteristics Table

(measured with constant current power supply)

Time vs Current Characteristics: UL248-14		
Rated current	100%	200%
250mA~5A	>4h	<60s

Average Time Current (I-T) Curves

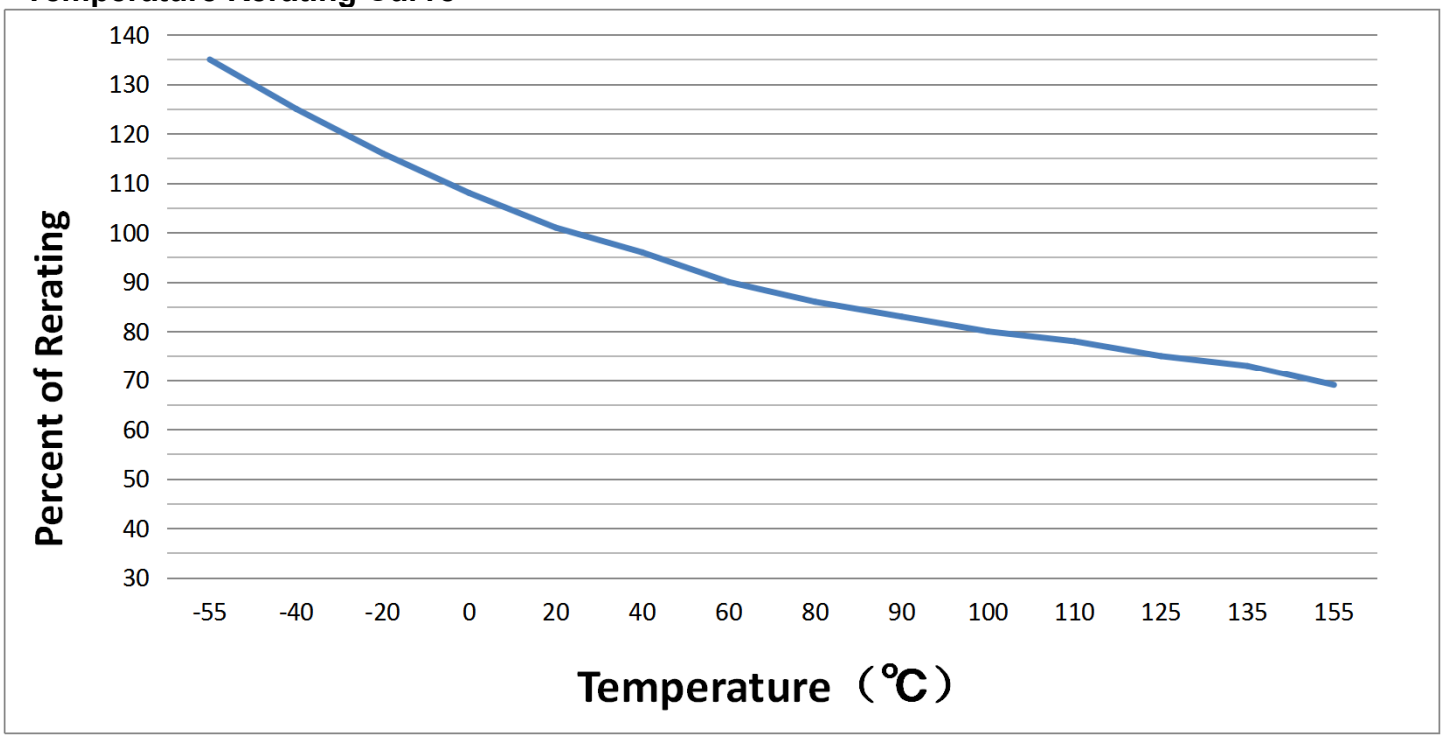


Electrical Characteristics

Electrial Characteristics at 25℃								
Amp Code	Rated Current	Rated Voltage	Typical Voltage Drop(mV)	Breaking Capacity	Typical Melting I²T (A²s)	Typical cold Resistance (mΩ)	Alpha Mark	Approvals
								cURus
0250	250mA	32VDC	891	50A @ 32V DC	0.00044	3200	D	•
0375	375mA		585		0.00095	1650	E	•
0500	500mA		580		0.0022	1000	F	•
0750	750mA		425		0.0094	450	G	•
1100	1.00A		203		0.0027	155	H	•
1125	1.25A		148	35A @ 32V DC	0.014	112	J	•
1150	1.50A		133		0.037	80.5	K	•
1200	2.00A		112		0.052	48	N	•
1250	2.50A		108		0.065	34	O	•
1300	3.00A		105		0.072	25	P	•
1350	3.50A		98		0.135	20	R	•
1400	4.00A		92		0.25	15.5	S	•
1500	5.00A		85		0.75	89.5	T	•

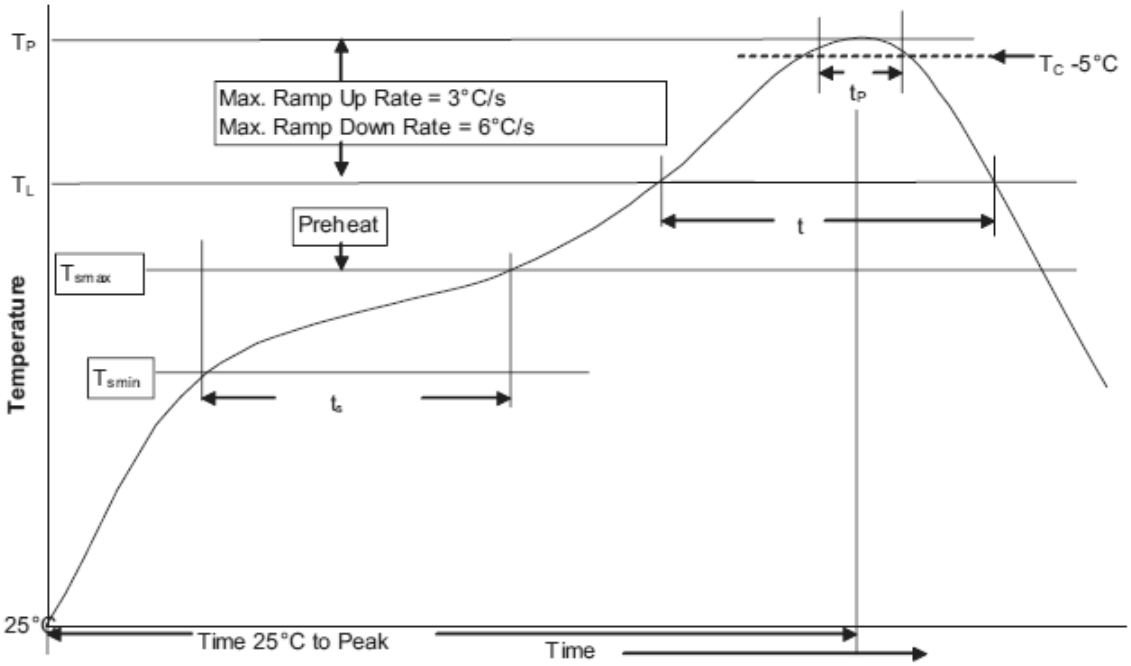
* DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)
* DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25℃
* Typical Pre-arcing I^2t are measured at 10In Current

Temperature Rerating Curve



Normal ambient temperature: 23+/-3℃
Operating temperature: -55 ~ 150℃, with proper correction factor applied

7. SOLDERING PARAMETERS



1.Infrared Reflow:
Temperature: 260℃
Time: 30sec 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 (t_P) 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:

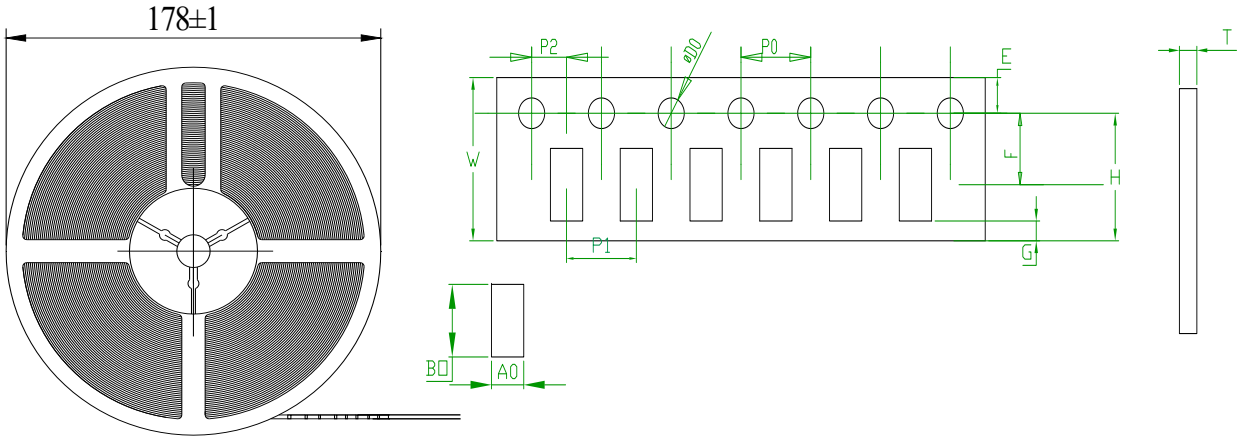
Series No.	Amp Code	Packaging Code	Quantity	Purchase Order No.
061				

9. PACKING INFORMATION

Taping details

Packing

Unit:mm



A0	B0	D0	E	P1	P2	T	G	F	P0	H	W
1.10±0.05	1.90±0.05	1.50±0.05	1.75±0.10	4.00±0.1	2.00±0.05	0.60±0.05	0.75 Min	3.50±0.05	4.00±0.10	6.25±0.30	8.00±0.20

Quantity Per Reel		Quantity Carton Box
5000 pcs		50000pcs