



承 认 书

APPROVAL SHEET

| | |
|---------|------------------|
| 编号 No. | 0631150000-C/0-B |
| 日期 Date | 2020.07.12 |

| | |
|-----------------|--|
| 客 户 Customer | |
|-----------------|--|

| | |
|----------------|----------------------------|
| 品 名 Product | 0603 Size Chip Fuse |
| 系 列 Series | 063 series |

| 料号 Part No. | 规格描述 Specification | 备注 Remark |
|--------------------|--|-----------|
| 贝特电子 Betterfuse | 0603 Size 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 | | | |
| 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 | 2014.07.22 | 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 | | | | | | |
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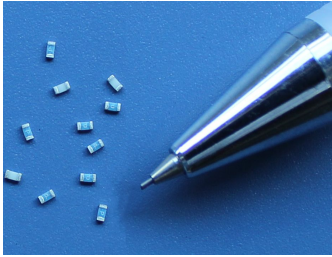
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1. SCOPE AND DESCRIPTION



Following electronic product specifications apply to chip fuses of the 063 series. The 063 series is a Time-Lag type chip fuse for over-current protection.

With their small size and layout, 063 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 063 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

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

3. AGENCY APPROVALS

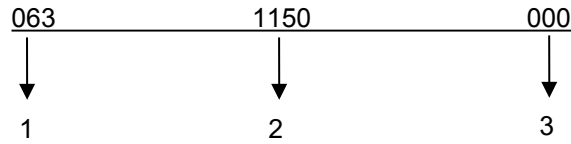
| Agency | Agency File Number | Ampere/ Voltage Range |
|---|--------------------|-----------------------|
|  | E300003 | 32VDC:1A~5A |



4. PART NUMBERING SYSTEM

4.1 Part Number

Example: 0631150000



- 1 .Product Series 063
- 2 .Ampere Rating 1.5A (see table 4.3 below)
- 3 .Supplementary Code See table 4.2 below

4.2 Supplementary Code Table

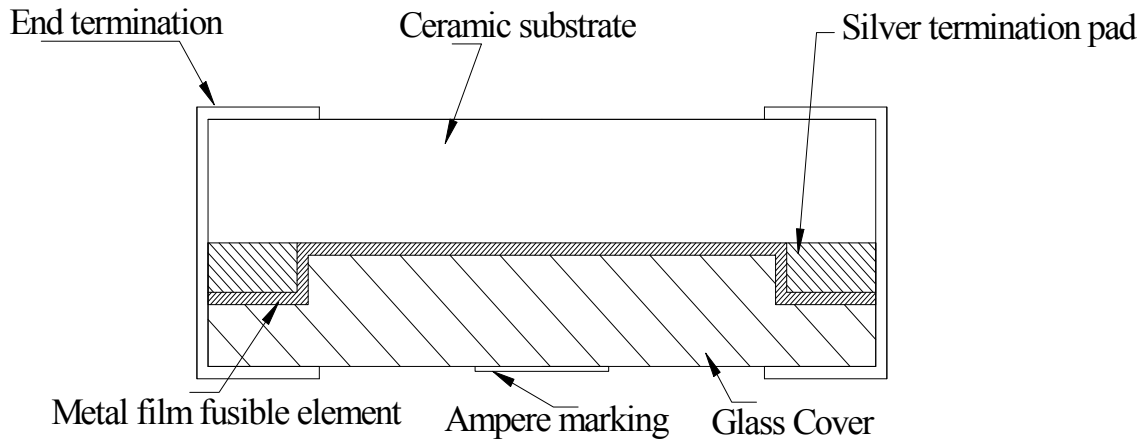
| CODE | DESIGNATION |
|------------|---------------|
| 000 | Tape-and-reel |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

4.3. Ampere Rating Table

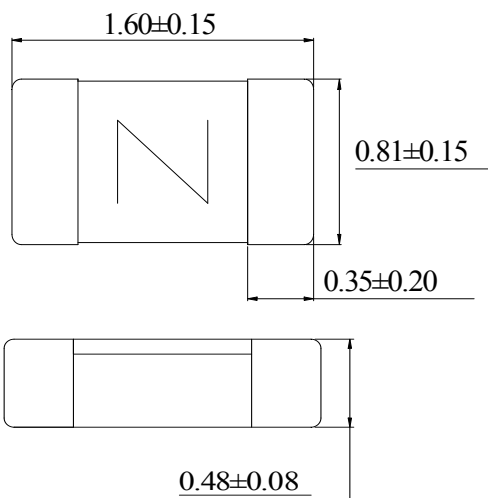
| AMP CODE | AMPERE RATING | VOLTAGE RATING |
|----------|---------------|----------------|
| 1100 | 1.00A | 32V DC |
| 1150 | 1.50A | 32V DC |
| 1200 | 2.00A | 32V DC |
| 1250 | 2.50A | 32V DC |
| 1300 | 3.00A | 32V DC |
| 1350 | 3.50A | 32V DC |
| 1400 | 4.00A | 32V DC |
| 1500 | 5.00A | 32V DC |



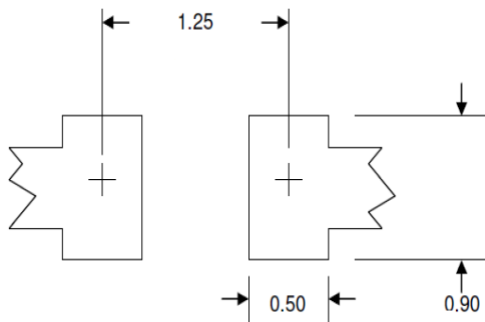
5. MECHANICAL SPECIFICATIONS



Dimensions (unit: mm)



Recommended land pattern



Operating Temperature:

-55°C to 150°C

Storage Conditions:

+10°C to +60°C

Relative humidity: $\leq 75\%$ 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



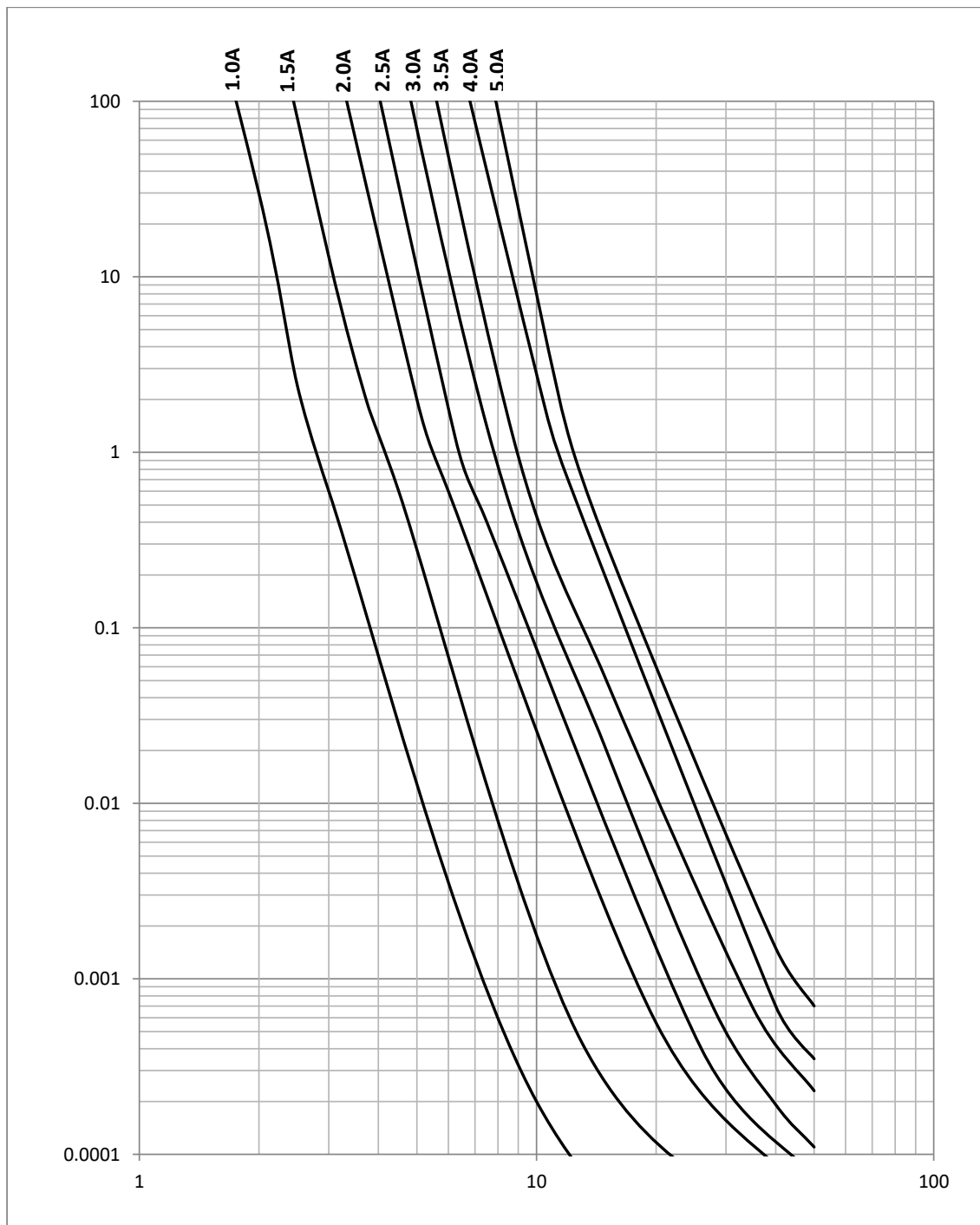
6. ELECTRICAL SPECIFICATIONS

Time vs Current Characteristics Table

(measured with constant current power supply)

| Time vs Current Characteristics: UL248-14 | | | |
|---|------|--------|------|
| Rated current | 100% | 200% | 250% |
| 1A~5A | >4h | 1s~60s | <5s |

Average Time Current (I-T) Curves



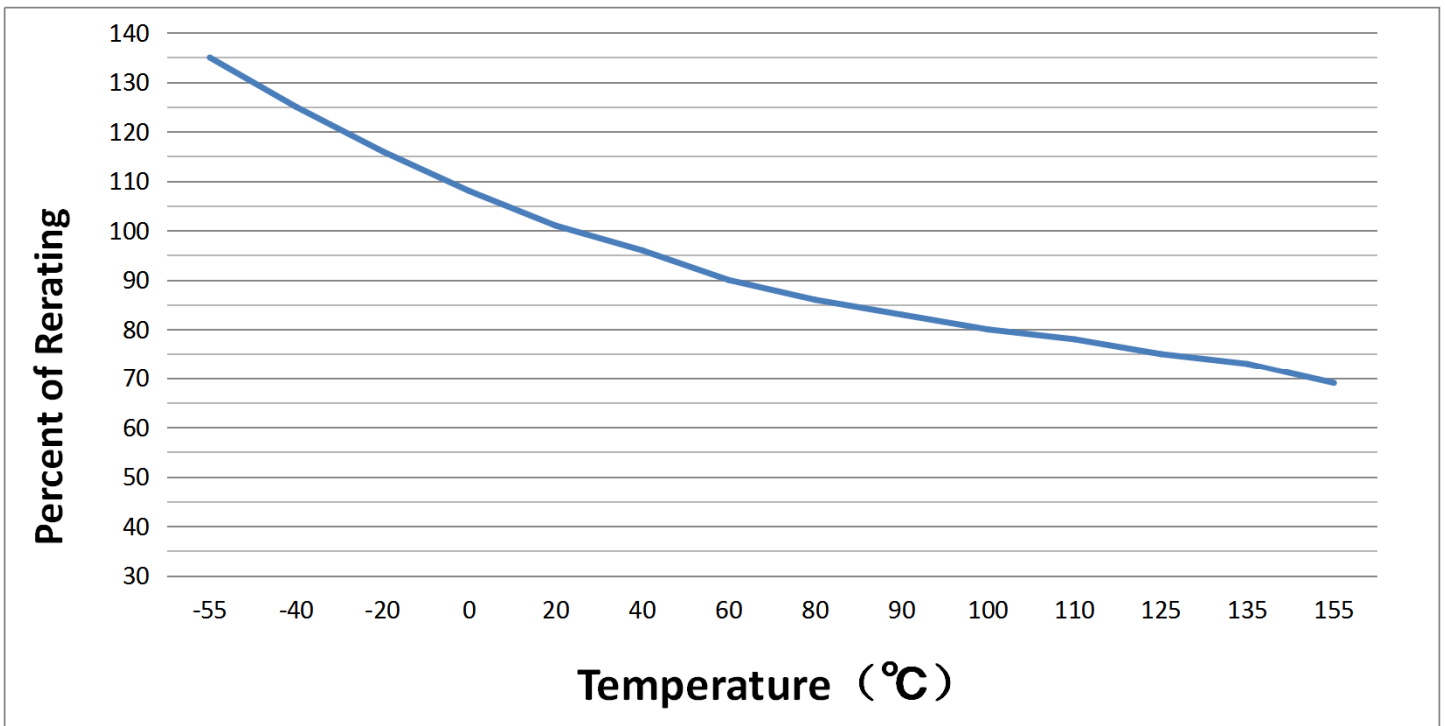


Electrical Characteristics

| Electrical Characteristics at 25°C | | | | | | | | |
|------------------------------------|---------------|---------------|--------------------------|-------------------|---|------------------------------|------------|-----------|
| Amp Code | Rated Current | Rated Voltage | Typical Voltage Drop(mV) | Breaking Capacity | Typical Melting I ² T (A ² s) | Typical Cold Resistance (mΩ) | Alpha Mark | Approvals |
| | | | | | | | | cURus |
| 1100 | 1.00A | 32VDC | 325 | 50A@32VDC | 0.015 | 248 | H | • |
| 1150 | 1.50A | | 255 | | 0.05 | 145 | K | • |
| 1200 | 2.00A | | 150 | | 0.125 | 74 | N | • |
| 1250 | 2.50A | | 135 | | 0.14 | 54 | O | • |
| 1300 | 3.00A | | 120 | | 0.35 | 35 | P | • |
| 1350 | 3.50A | | 125 | | 0.62 | 27.5 | R | • |
| 1400 | 4.00A | | 110 | | 0.81 | 20.5 | S | • |
| 1500 | 5.00A | | 103 | | 2.0 | 12.75 | 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 25degrees
3. Typical Pre-arcing I²t are measured at 10In Current

Temperature Derating Curve

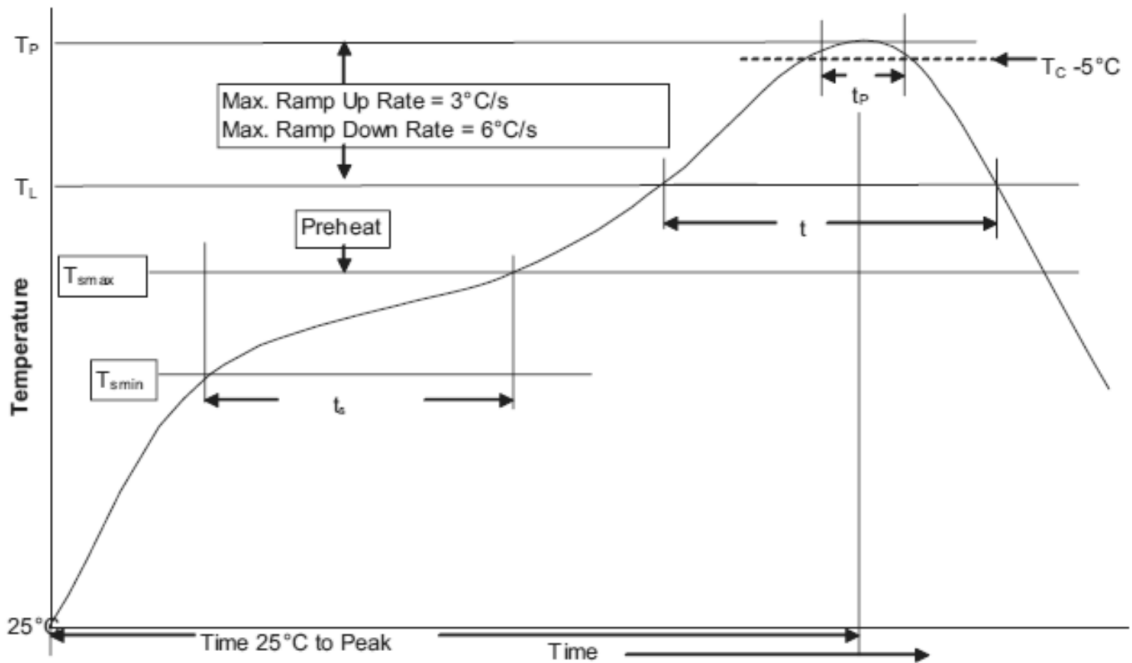


Normal ambient temperature: 23+/-3°C

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



7. SOLDERING PARAMETERS



1. Infrared Reflow:
Temperature: 260°C
Time: 30S
Recommend reflow profile

2. Wave Soldering
Reservoir Temperature: 260°C
Time in Reservoir: 10sec Max.

| | | |
|---|-----------------------------|----------------------|
| Profile Feature | | Lead (Pb)free solder |
| Average Ramp-UP Rate (Tsmax to Tp) | | 3°C/s Max. |
| Preheat and soak | Temperature min.(Tsmmin) | 150°C |
| | Temperature max.(Tsmmax) | 200°C |
| | Time (Tsmmin to Tsmmax)(ts) | 60~120s |
| Liquidous temperature(TL) Time at liquidous(tL) | | 217°C 60~150S |
| Peak package body temperature(Tp) | | 260°C |
| Time (tp) within 5°C of the specified classification temperature (Tc) | | 30S |
| Average ramp-down rate (Tp to Tsmmax) | | 6°C/s Max. |
| Time (25°C 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. |
|------------|----------|----------------|----------|--------------------|
| 063 | | | | |

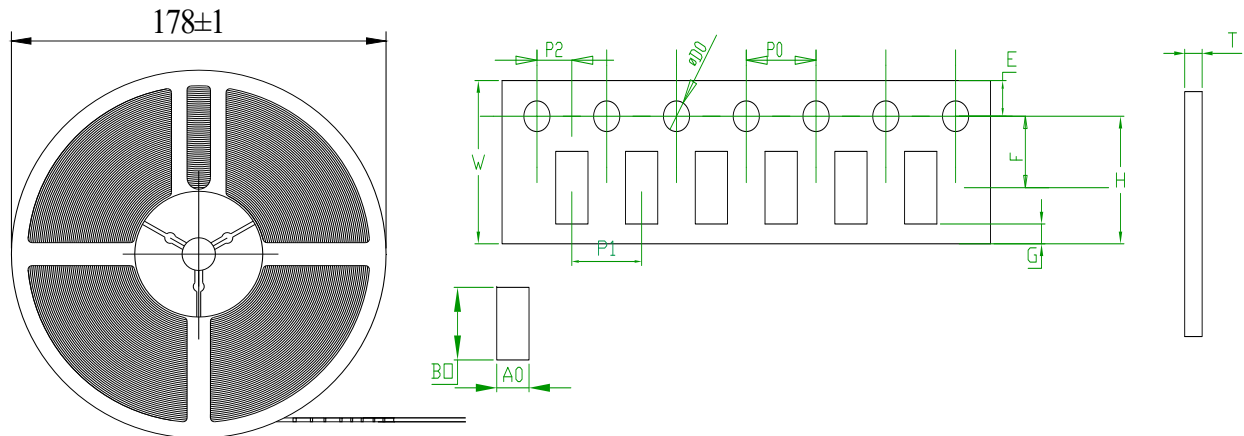


9. PACKING INFORMATION

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 |

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东莞市贝特电子科技有限公司

Room 601 of 16 Block, Xinzhu Yuan, 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