



# 产品承认书

## SPECIFICATION FOR APPROVAL

客户名称  
CUSTOMER  
客户料号  
PART NO  
规格描述  
DESCRIPTION  
精勤料号  
JingQin P/N  
日期 DATE

见第 5-6 页

见第 5-6 页

| Huizhou Jingqin Electronic Components Co., Ltd |            |             |
|------------------------------------------------|------------|-------------|
| Made By                                        | Checked By | Approval By |
|                                                |            |             |

| Customer Approval |            |             |
|-------------------|------------|-------------|
| Prepared By       | Checked By | Approval By |
|                   |            |             |

### 惠州精勤电子元件有限公司

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# 贴片氧化锌压敏电阻规格书

## SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
精勤元件

### 1、特点 Feature

#### 1.1 先进的封装工艺，封装材料满足 UL94-V0

Advanced packaging technology, packaging materials meet UL94-V0

#### 1.2 结构紧凑，体积小，节省空间

Compact structure, small size, space saving

#### 1.3 优越的高温高湿性能

Superior high temperature and high humidity performance

#### 1.4 强大的抑制高浪涌强电流能力

Strong ability to suppress high surge and high current

#### 1.5 SMD 料盘包装，适用于无铅回流焊/波峰焊自动贴装

SMD tray packaging, suitable for lead-free reflow soldering/wave soldering automatic placement

#### 1.6 符合 RoSH ， REACH ， H.F 无卤

Comply with RoSH, REACH, H.F

#### 1.7 安规认证： Safety certification:

CUL (NO:E523420)



CQC (NO:CQC21001319729, NO:CQC21001320392)

TUV (NO:B 112025 0001 Rev.00 , B 112025 0002 Rev.00)

#### 1.8 管理体系认证： ISO9001:2015 质量管理体系

ISO9001:2015 Quality Management System

ISO14001:2015 环境管理体系

ISO14001:2015 Environmental Management System

IAFT16949 汽车行业质量管理体系

IAFT16949 Automotive Quality Management System

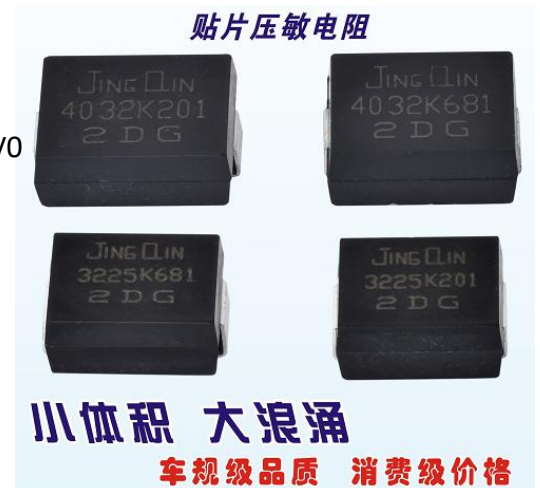
### 2、应用 Application

2.1 LED circuit protection LED 电路保护

2.2 Industrial equipment 工业设备

2.3 Communication equipment 通讯设备

2.4 Automotive Electronics 汽车电子



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3、适用标准 Applicable standards

3.1 UL1449

3.2 IEC61051-1, -2, -2-2, IEC60950-1 Annex Q

3.3 GB/T10193, GB/T10194, GB4943.1, GB8898

3.4 IEC61000-4-5

4、品名说明 Part No. Explain

JQ 3225 K 331 G2 L

JING QIN<sup>®</sup>

贴片尺寸:  
SMD Size:  
3225 $\approx$ 7.0 $\times$ 5.6 $\times$ 2.45mm

压敏电压公差:  $\pm 10\%$   
Varistor voltage  
tolerance:  $\pm 10\%$

L档

Low低性能

15寸料盘卷装:  
15" Reel packing:  
3225: 4000PCS/reel

压敏电压( $V_{1mA}$ ):  $33 \times 10^1 = 330V$   
Varistor voltage( $V_{1mA}$ ):  $33 \times 10^1 = 330V$

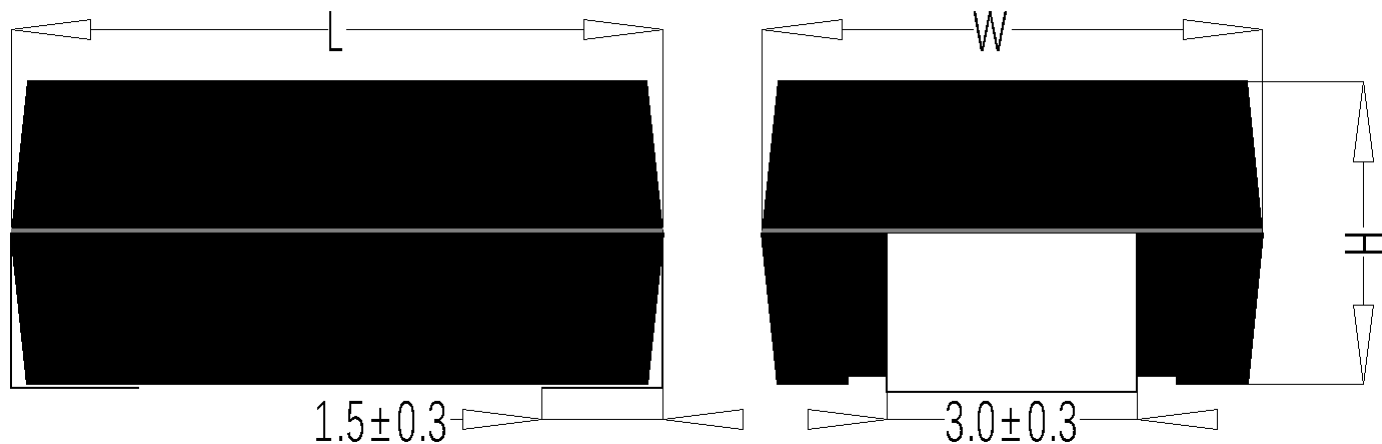
5、通用参数 General Technical data

| 参数名称<br>Parameter Name        | 参数值<br>Parameter value | 单位<br>Unit |
|-------------------------------|------------------------|------------|
| 工作温度<br>Operating temperature | -40 — +125             | °C         |
| 储存温度<br>Storage temperature   | -40 — +125             | °C         |
| 耐电压<br>Voltage Proof          | $\geq 2.5$             | KVRMS      |
| 绝缘电阻<br>Insulation Resistance | $\geq 100$             | M $\Omega$ |

6、结构与尺寸 Structure and Dimensions

# 贴片氧化锌压敏电阻规格书

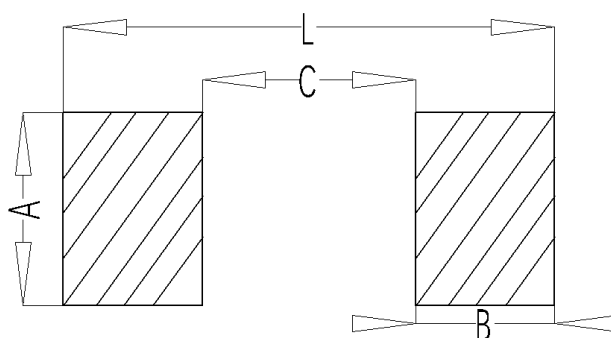
## SMD zinc oxide varistor specification



(单位 Unit: mm)

| 尺寸<br>Size Code | 压敏电压范围 (V)<br>Varistor Voltage (V) | L        | W       | H       |
|-----------------|------------------------------------|----------|---------|---------|
| 3225            | V <sub>1mA</sub> =201—681          | 8.2±0.3  | 6.3±0.3 | 4.3±0.3 |
|                 | V <sub>1mA</sub> =751—821          |          |         | 5.2±0.3 |
| 4032            | V <sub>1mA</sub> =201—681          | 11.0±0.3 | 8.2±0.3 | 4.8±0.3 |
|                 | V <sub>1mA</sub> =751—821          |          |         | 5.5±0.3 |

## 7、焊盘尺寸 Dimensions



(单位 unit: mm)

| 尺寸<br>Model number | A   | B   | C   | L    |
|--------------------|-----|-----|-----|------|
| 3225               | 3.5 | 2.8 | 4.5 | 10.1 |
| 4032               | 3.5 | 2.8 | 6.5 | 12.1 |

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## SMD zinc oxide varistor specification

### 8、电气特性 Electrical Characteristics

| 型号<br>Part No. | 压敏电压<br>Varistor<br>Voltage<br>(@1mA DC) | 最大连续<br>工作电压<br>Max.<br>Allowable<br>Voltage |                        | 最大<br>限制电压<br>Max.<br>Clamping<br>Voltage<br>(8/20μs) |                       | 最大<br>冲击电流<br>Max.<br>Impulse<br>Current<br>(8/20μs) | 最大能量<br>Max.<br>Energy<br>(10/1000μs) | 额定<br>功率<br>Rated<br>Power | 参考电容<br>Typical<br>capacitance<br>Reference<br>@1KHZ |
|----------------|------------------------------------------|----------------------------------------------|------------------------|-------------------------------------------------------|-----------------------|------------------------------------------------------|---------------------------------------|----------------------------|------------------------------------------------------|
|                | V <sub>1mA</sub><br>(V)                  | V <sub>AC</sub><br>(V)                       | V <sub>DC</sub><br>(V) | V <sub>p</sub><br>(V)                                 | I <sub>p</sub><br>(A) | I <sub>max</sub><br>(A)                              | W <sub>max</sub><br>(J)               | P<br>(W)                   | C(pF)                                                |
| JQ3225K201G2L  | 200(180-220)                             | 130                                          | 170                    | 340                                                   | 10                    | 1000                                                 | 6.0                                   | 0.25                       | 100                                                  |
| JQ3225K221G2L  | 220(198-242)                             | 140                                          | 180                    | 360                                                   | 10                    | 1000                                                 | 6.5                                   | 0.25                       | 95                                                   |
| JQ3225K241G2L  | 240(216-264)                             | 150                                          | 200                    | 395                                                   | 10                    | 1000                                                 | 7.0                                   | 0.25                       | 90                                                   |
| JQ3225K271G2L  | 270(243-297)                             | 175                                          | 225                    | 455                                                   | 10                    | 1000                                                 | 7.5                                   | 0.25                       | 75                                                   |
| JQ3225K301G2L  | 300(270-330)                             | 195                                          | 250                    | 500                                                   | 10                    | 1000                                                 | 8.0                                   | 0.25                       | 60                                                   |
| JQ3225K331G2L  | 330(297-363)                             | 210                                          | 275                    | 550                                                   | 10                    | 1000                                                 | 8.5                                   | 0.25                       | 55                                                   |
| JQ3225K361G2L  | 360(324-396)                             | 230                                          | 300                    | 595                                                   | 10                    | 1000                                                 | 9.0                                   | 0.25                       | 50                                                   |
| JQ3225K391G2L  | 390(351-429)                             | 250                                          | 320                    | 650                                                   | 10                    | 1000                                                 | 10.0                                  | 0.25                       | 50                                                   |
| JQ3225K431G2L  | 430(387-473)                             | 275                                          | 350                    | 710                                                   | 10                    | 1000                                                 | 11.0                                  | 0.25                       | 45                                                   |
| JQ3225K471G2L  | 470(423-517)                             | 300                                          | 385                    | 775                                                   | 10                    | 1000                                                 | 12.0                                  | 0.25                       | 45                                                   |
| JQ3225K511G2L  | 510(459-561)                             | 320                                          | 410                    | 845                                                   | 10                    | 1000                                                 | 13.0                                  | 0.25                       | 40                                                   |
| JQ3225K561G2L  | 560(504-616)                             | 350                                          | 450                    | 930                                                   | 10                    | 1000                                                 | 14.0                                  | 0.25                       | 35                                                   |
| JQ3225K621G2L  | 620(558-682)                             | 395                                          | 510                    | 1020                                                  | 10                    | 1000                                                 | 15.0                                  | 0.25                       | 30                                                   |
| JQ3225K681G2L  | 680(612-748)                             | 420                                          | 560                    | 1120                                                  | 10                    | 1000                                                 | 16.0                                  | 0.25                       | 25                                                   |

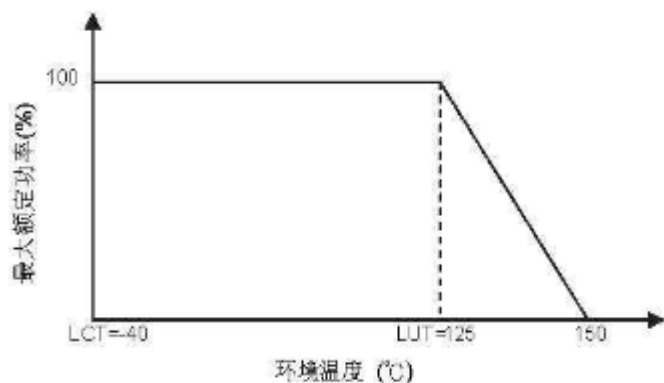
贴片氧化锌压敏电阻规格书  
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|               |              |     |     |      |    |      |      |     |     |
|---------------|--------------|-----|-----|------|----|------|------|-----|-----|
| JQ4032K201G2L | 200(180-220) | 130 | 170 | 340  | 25 | 2000 | 15.0 | 0.4 | 200 |
| JQ4032K221G2L | 220(198-242) | 140 | 180 | 360  | 25 | 2000 | 18.0 | 0.4 | 180 |
| JQ4032K241G2L | 240(216-264) | 150 | 200 | 395  | 25 | 2000 | 18.5 | 0.4 | 170 |
| JQ4032K271G2L | 270(243-297) | 175 | 225 | 455  | 25 | 2000 | 21.0 | 0.4 | 150 |
| JQ4032K301G2L | 300(270-330) | 195 | 250 | 500  | 25 | 2000 | 21.5 | 0.4 | 140 |
| JQ4032K331G2L | 330(297-363) | 210 | 275 | 550  | 25 | 2000 | 22.0 | 0.4 | 120 |
| JQ4032K361G2L | 360(324-396) | 230 | 300 | 595  | 25 | 2000 | 23.0 | 0.4 | 115 |
| JQ4032K391G2L | 390(351-429) | 250 | 320 | 650  | 25 | 2000 | 25.0 | 0.4 | 105 |
| JQ4032K431G2L | 430(387-473) | 275 | 350 | 710  | 25 | 2000 | 29.0 | 0.4 | 95  |
| JQ4032K471G2L | 470(423-517) | 300 | 385 | 775  | 25 | 2000 | 30.0 | 0.4 | 90  |
| JQ4032K511G2L | 510(459-561) | 320 | 410 | 845  | 25 | 2000 | 33.0 | 0.4 | 85  |
| JQ4032K561G2L | 560(504-616) | 350 | 450 | 930  | 25 | 2000 | 33.0 | 0.4 | 80  |
| JQ4032K621G2L | 620(558-682) | 395 | 510 | 1020 | 25 | 2000 | 35.0 | 0.4 | 60  |
| JQ4032K681G2L | 680(612-748) | 420 | 560 | 1120 | 25 | 2000 | 35.0 | 0.4 | 55  |

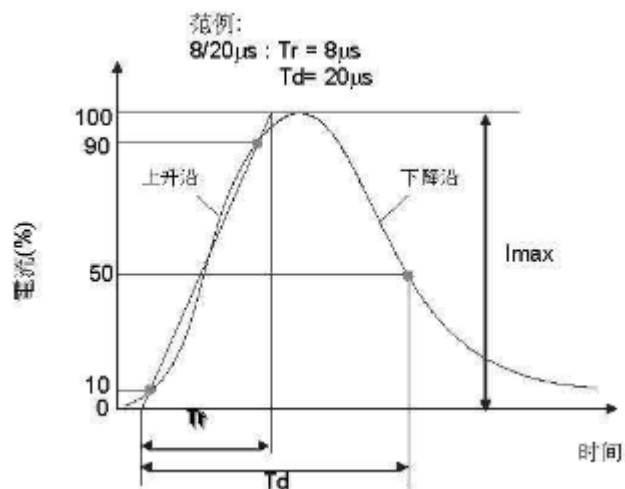
# 贴片氧化锌压敏电阻规格书 SMD zinc oxide varistor specification

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功率减额曲线 Power derating curve



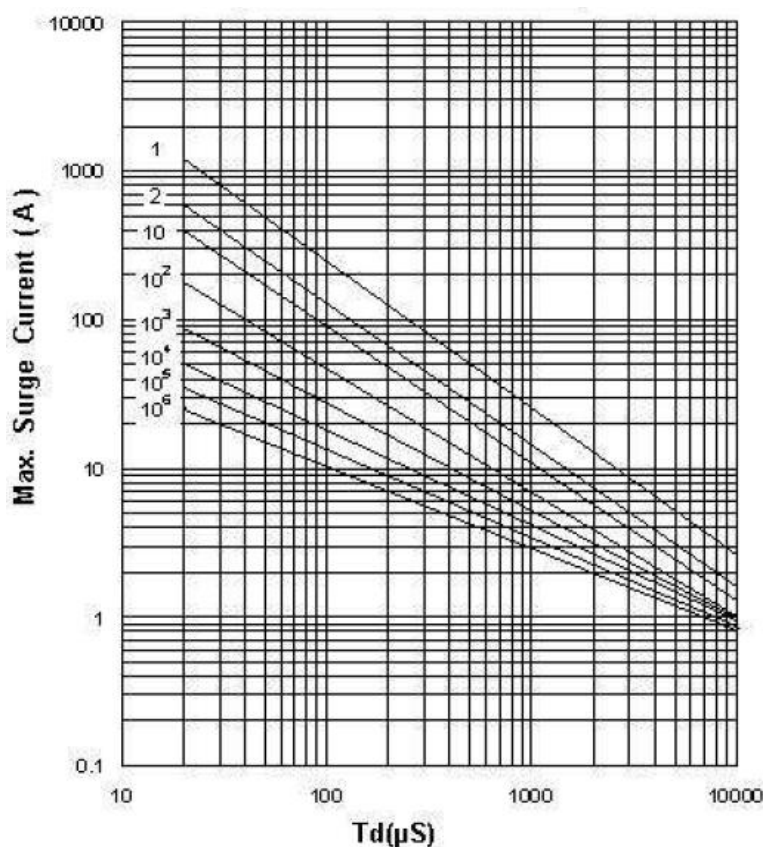
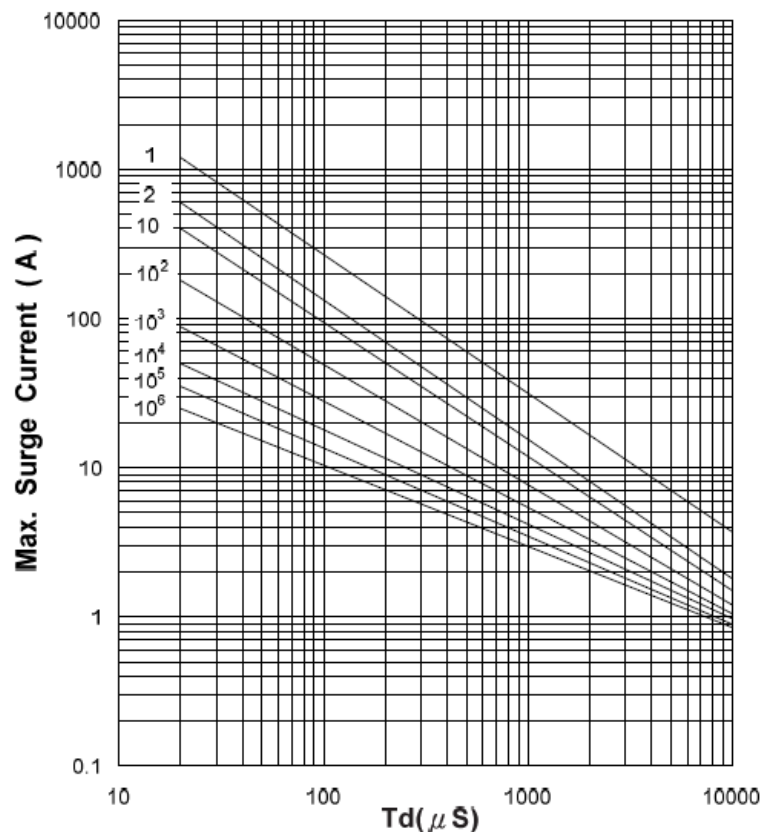
冲击电流标准波形 Standard Waveform of Impulse Current



最大冲击电流减额曲线 Maximum impulse current derating curve

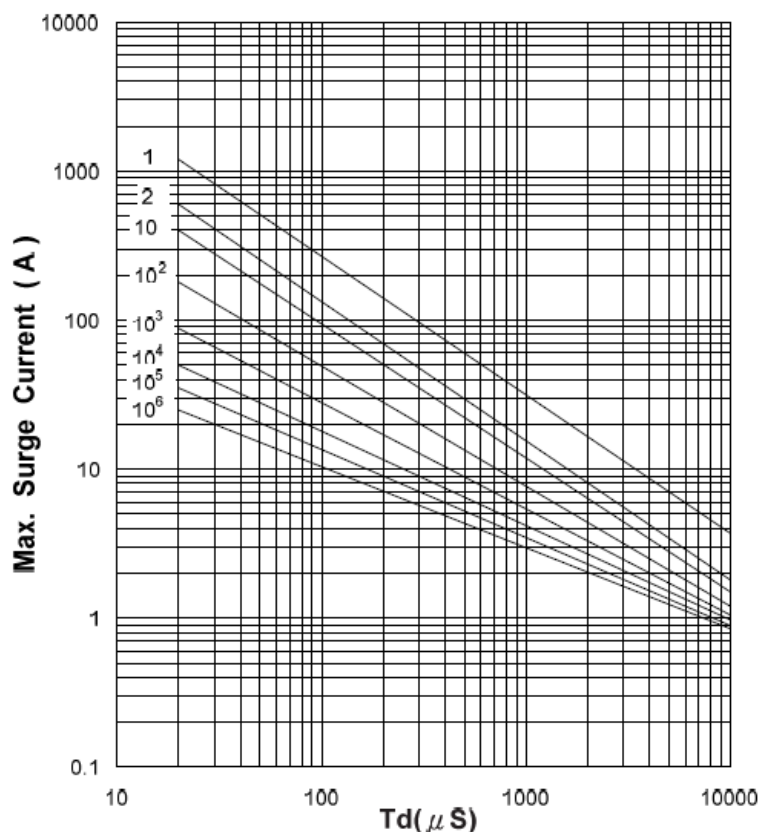
3225K201 – 3225K471

3225K511 – 3225K681

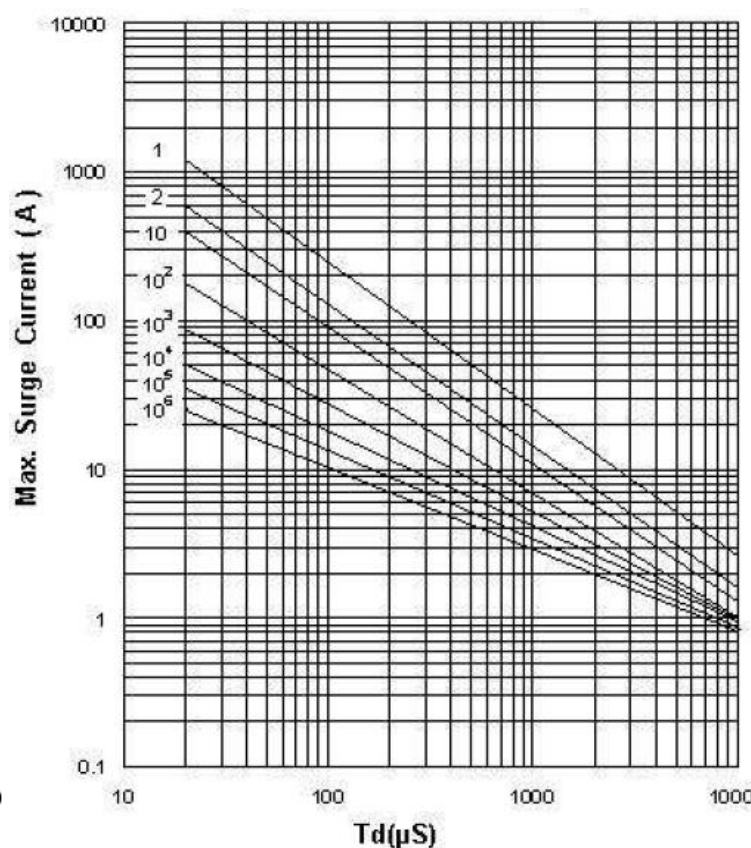


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4032K201 – 4032K471

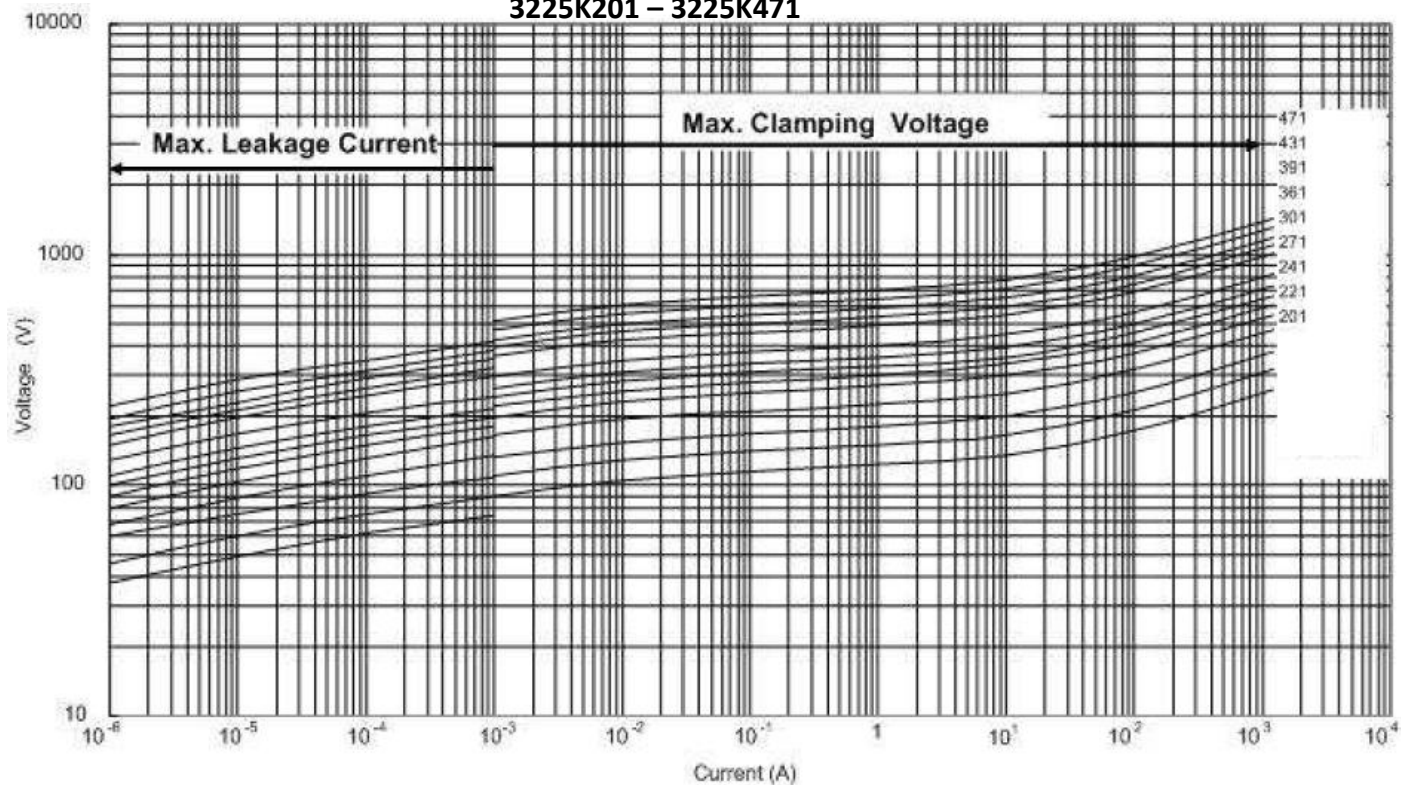


4032K511 – 4032K681

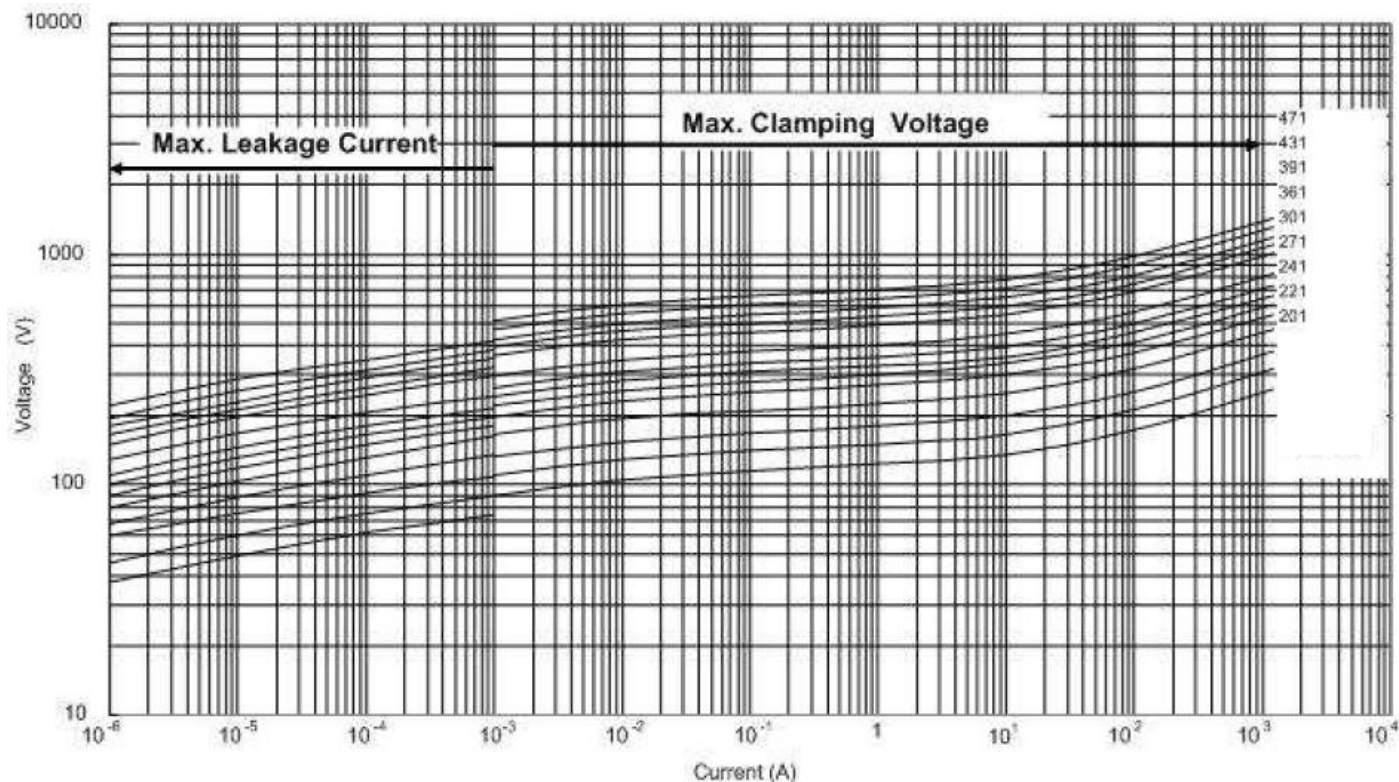


最大漏电流与最大限制电压曲线 Maximum leakage current and maximum allowable voltage

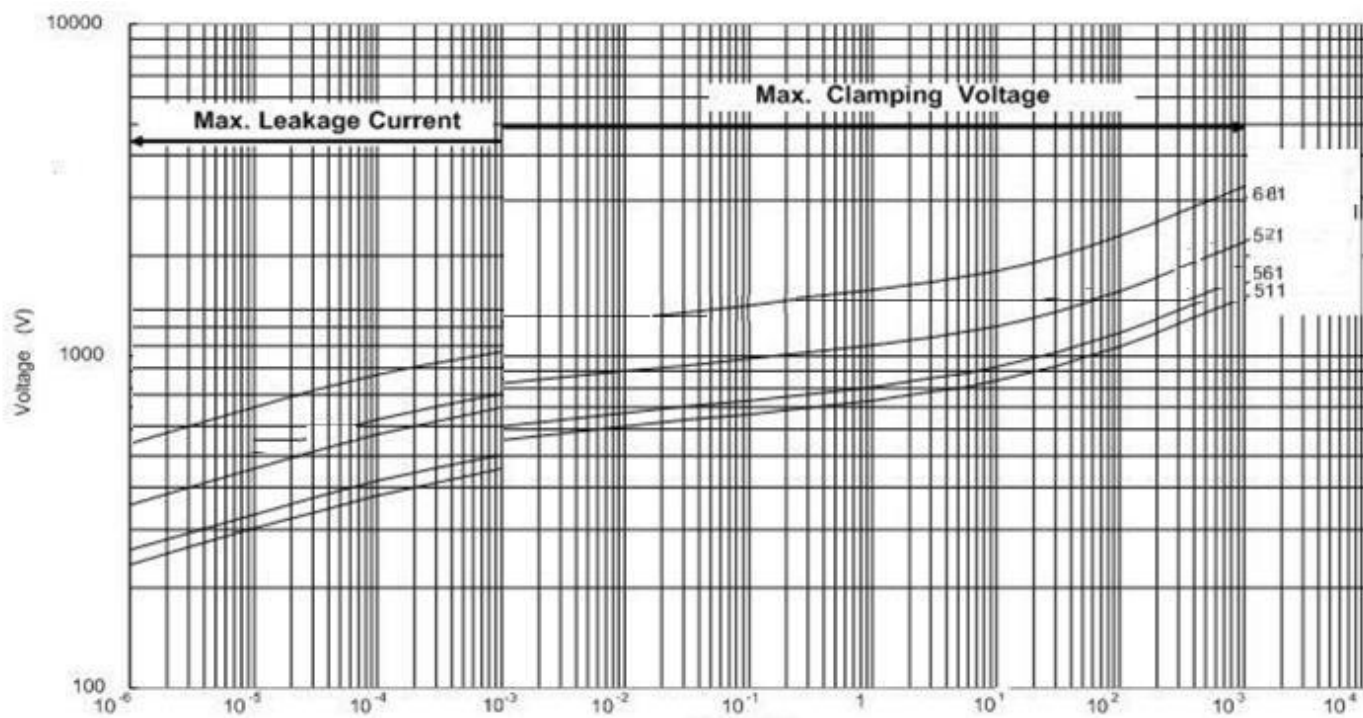
3225K201 – 3225K471



4032K201 – 4032K471



3225K511 – 3225K681

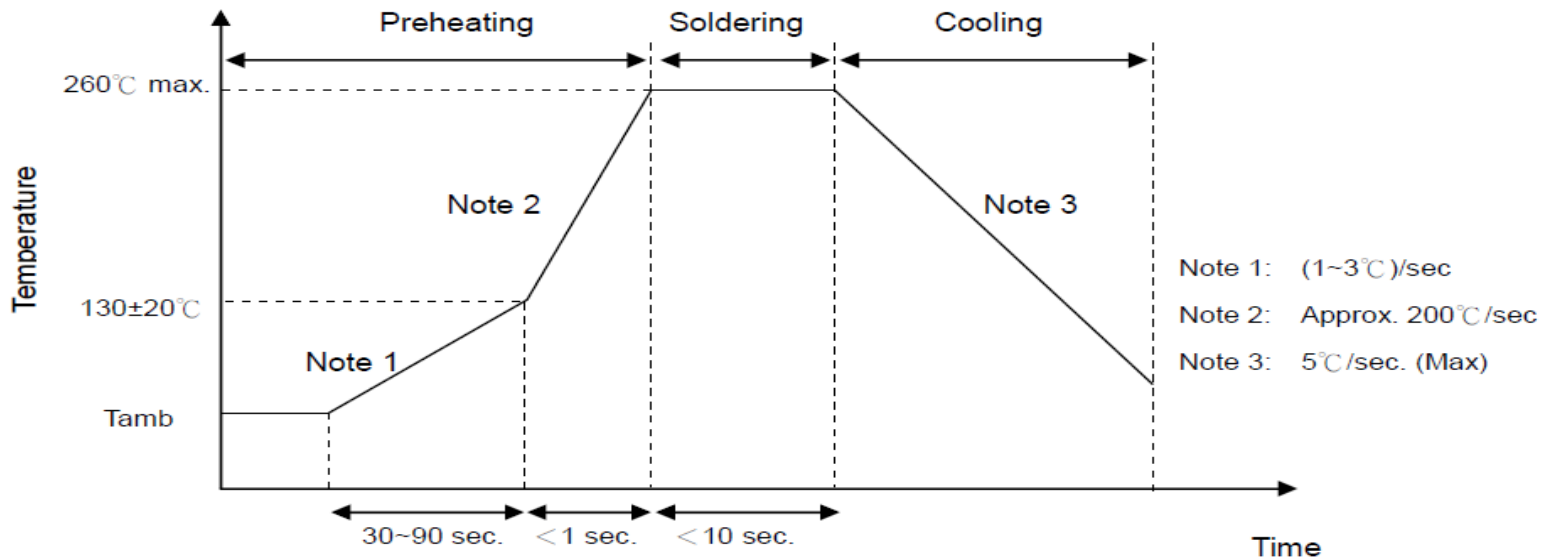


# 贴片氧化锌压敏电阻规格书

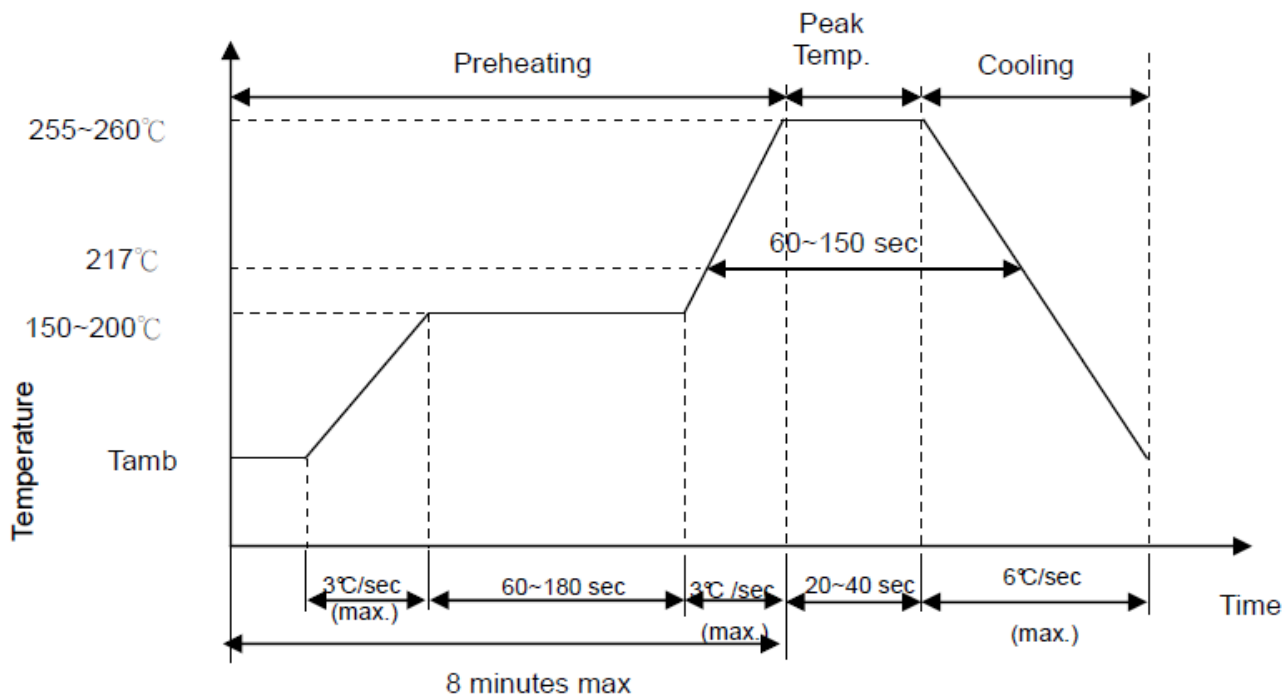
## SMD zinc oxide varistor specification

### 9、推荐焊接条件 Recommended soldering conditions

#### 9.1 波峰焊曲线 Wave soldering



#### 9.2 无铅回流焊曲线 Lead-free reflow soldering



#### 烙铁重工焊接条件 Soldering iron heavy industry welding conditions

| 项目 Item                               | 温度 Temperature              |
|---------------------------------------|-----------------------------|
| 烙铁头部温度 Soldering iron tip temperature | $360^{\circ}\text{C (max)}$ |
| 焊接时间 Welding time                     | $3\text{s(max)}$            |
| 烙铁头直径 Diameter of soldering iron tip  | $\Phi 3\text{mm(max)}$      |

# 贴片氧化锌压敏电阻规格书

## SMD zinc oxide varistor specification

### 10、可靠性试验 Reliability

| 项目<br>Item                                | 测试项目标准<br>Standard             | 测试方法 Test condition / Method                                                                                                                                                                                                                                                                                                                                                                     | 规格值 Specifications                                                                     |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
|-------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------|-----------------|---|-------|------|---|------------------|-----|---|--------|------|---|------------------|-----|-------------------------------------------------------------|
| 耐振性<br>Vibration                          | IEC 61051-1                    | 将成品置于振动机上，施与一单谐振动（振幅：0.75mm）和振幅 1.5mm，振动频率周期为 10Hz—55Hz—10Hz，对三个垂直方向各试验 2 个小时，然后检测成品外在损伤。<br>Frequency range:10-55-10Hz<br>Amplitude:0.75mm and 1.5mm<br>Direction: 3 mutually perpendicular directions,2 hrs each.                                                                                                                                                                              | $ \Delta V/V_{1mA}  \leq 5\%$<br>无外在损伤<br>No visible damage                            |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 可焊性<br>Solderability                      | IEC60068-2-20                  | 将成品引脚浸入 245℃±3℃的焊锡液中 3±0.3 秒取出<br>Dip in solder pot with condition 245±3℃， 3±0.3 sec                                                                                                                                                                                                                                                                                                             | 上锡均匀且面积≥95%<br>Solder coverage≥95%                                                     |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 耐焊接热性<br>Resistance to Soldering Heat     | IEC60068-2-20                  | 将成品引脚浸入 260℃±3℃的焊锡液中 10±1 秒取出<br>Dip in solder pot with condition 260±3℃， 10±1 sec                                                                                                                                                                                                                                                                                                               | $ \Delta V/V_{1mA}  \leq 5\%$                                                          |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 高温储存<br>High temperature storage          | IEC 60068-2-2                  | 将成品置于 125±5℃烤箱中 1000±24 小时，取出后置于常温 1-2 个小时，然后测量压敏电压<br>Oven condition 125±5℃ x 1000±24 hrs, measure after complete test 1-2H                                                                                                                                                                                                                                                                     | $ \Delta V/V_{1mA}  \leq 5\%$                                                          |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 耐湿性<br>Damp Heat, Steady State            | IEC60068-2-78                  | 1、将成品置于温度 40±2℃湿度 95%环境中 1000 个小时<br>2、将成品置于温度 40±2℃湿度 95%环境中，且施加最大允许工作电压 1000 个小时<br>1. 40±2℃，90-95% RH ,1000hrs<br>2. 40±2℃，90-95% RH , at MAV ,1000hrs                                                                                                                                                                                                                                        | 无外在损伤<br>No visible damage<br>$ \Delta V/V_{1mA}  \leq 10\%$<br>绝缘电阻≥100MΩ<br>IR≥100MΩ |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 冷热冲击<br>Rapid change of Temperature       | IEC60068-2-14                  | 以如下表的温度周期加于成品 5 次，然后置于室温 1-2 小时测量压敏电压<br>The conditions shown below shall be repeated 5 cycles <table><tr><th>Step</th><th>Temperature(℃)</th><th>Period(minutes)</th></tr><tr><td>1</td><td>-40±3</td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>5±3</td></tr><tr><td>3</td><td>+125±2</td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>5±3</td></tr></table> | Step                                                                                   | Temperature(℃) | Period(minutes) | 1 | -40±3 | 30±3 | 2 | Room temperature | 5±3 | 3 | +125±2 | 30±3 | 4 | Room temperature | 5±3 | 无外在损伤<br>No visible damage<br>$ \Delta V/V_{1mA}  \leq 5\%$ |
| Step                                      | Temperature(℃)                 | Period(minutes)                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 1                                         | -40±3                          | 30±3                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                        |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 2                                         | Room temperature               | 5±3                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                        |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 3                                         | +125±2                         | 30±3                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                        |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 4                                         | Room temperature               | 5±3                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                        |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 高温负荷 High Temperature load                | IEC61051-4.20                  | 将成品施加最大允许 AC 电压置于温度 125±2℃烤箱中 1000±24 小时，然后置于室温 1-2 小时测量压敏电压<br>125±2℃, 1000±24hrs at Max VaC, measure after 1-2H                                                                                                                                                                                                                                                                                | $ \Delta V/V_{1mA}  \leq 10\%$                                                         |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 电压温度系数<br>Voltage temperature coefficient | 规格标准<br>Specification Standard | $\frac{V_{1mA} \text{ at } 125^{\circ}\text{C} - V_{1mA} \text{ at } 25^{\circ}\text{C}}{V_{1mA} \text{ at } 25^{\circ}\text{C}} \times \frac{1}{100} \times 100 (\%/^{\circ}\text{C})$                                                                                                                                                                                                          | $-0.05 \leq T_c \leq 0.05 (\%/^{\circ}\text{C})$                                       |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |
| 耐电压<br>Voltage                            | IEC61051-4.8                   | 将成品表面封装体，以金属线绕成紧密线圈状，于线圈出头端与引脚端输入电压 AC2500V 施加 1 分钟                                                                                                                                                                                                                                                                                                                                              | 无外在损伤<br>No visible damage                                                             |                |                 |   |       |      |   |                  |     |   |        |      |   |                  |     |                                                             |

# 贴片氧化锌压敏电阻规格书

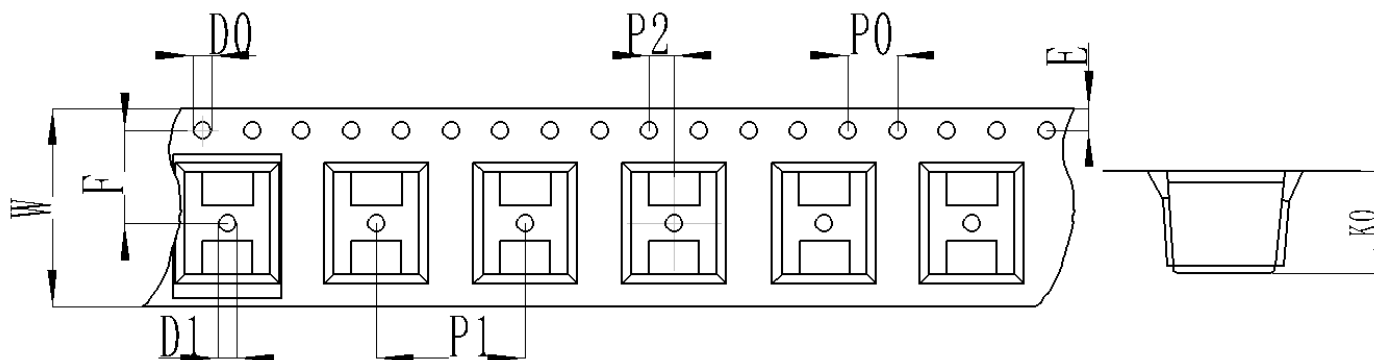
## SMD zinc oxide varistor specification

Metal balls method, 2500 Vac 1min

### 11、包装 Packing

(单位 Unit: mm)

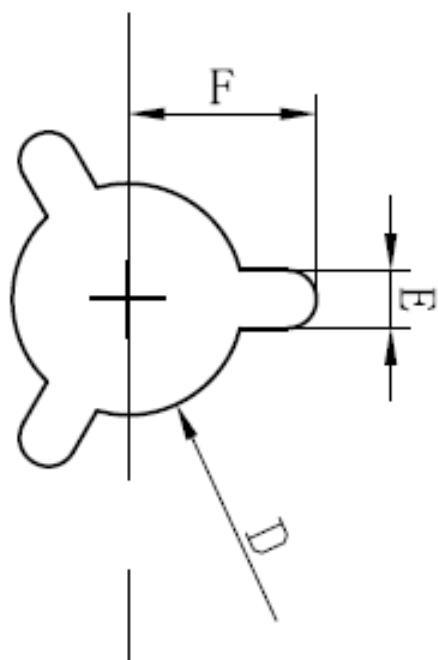
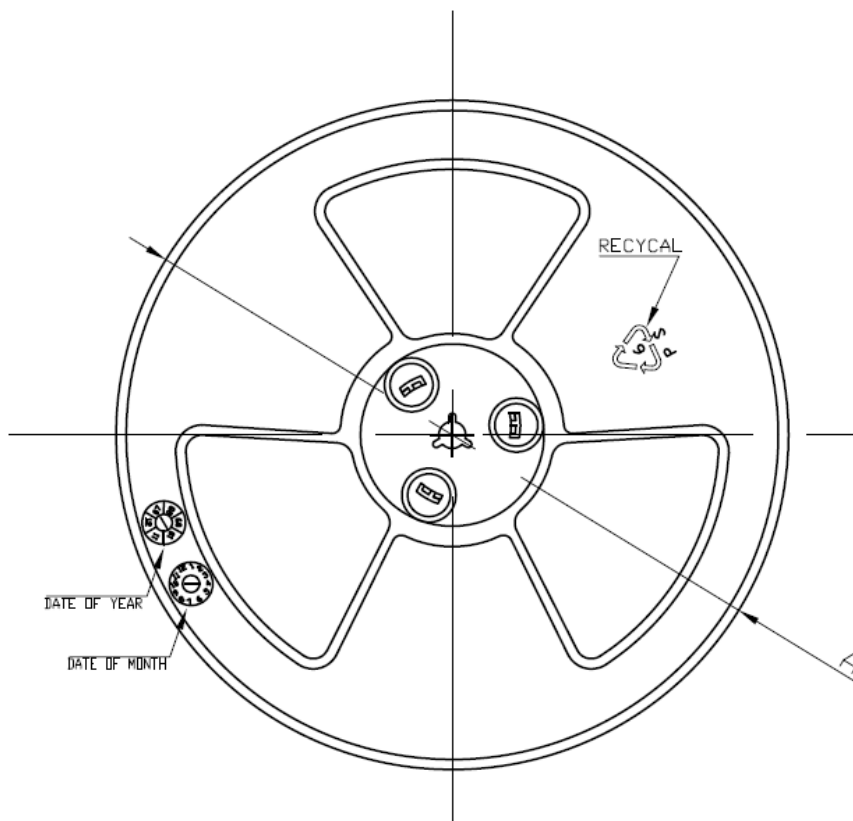
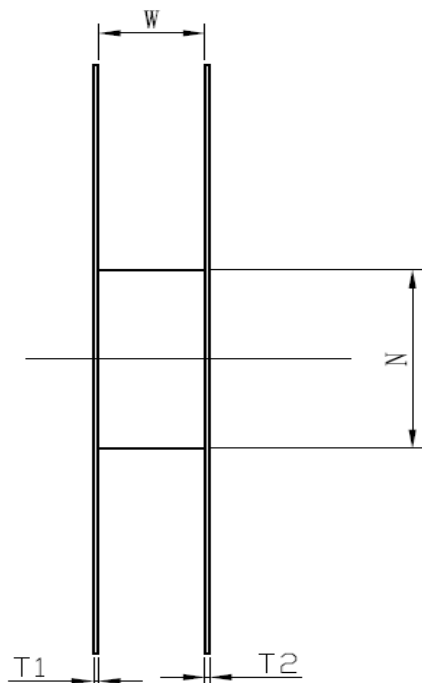
#### 11.1 编带包装方式说明 Taping Packaging



|      |        |          |          |          |                 |          |          |
|------|--------|----------|----------|----------|-----------------|----------|----------|
| 3225 | Symbol | w        | F        | E        | P0              | P1       | P2       |
|      | Spec   | 16.0±0.3 | 7.5±0.1  | 1.75±0.1 | 4.00±0.1        | 12.0±0.1 | 2.00±0.1 |
|      | Symbol | D0       | D1       | K0       | 数量/盘 : PCS/Reel |          |          |
|      | Spec   | 1.50±0.1 | 1.50±0.1 | 4.5±0.1  | 1820            |          |          |
| 4032 | Symbol | w        | F        | E        | P0              | P1       | P2       |
|      | Spec   | 24.0±0.3 | 11.5±0.1 | 1.75±0.1 | 4.0±0.1         | 12.0±0.1 | 2.0±0.1  |
|      | Symbol | D0       | D1       | K0       | 数量/盘 : PCS/Reel |          |          |
|      | Spec   | 1.5±0.1  | 1.5±0.1  | 5.3±0.1  | 1500            |          |          |

11.2 15 寸胶盘尺寸 15 inch plastic tray size

(单位 Unit: mm)



| SPEC | 3225               | 4032               |
|------|--------------------|--------------------|
| W    | $16.4 \pm 0.3$     | $24.4 \pm 0.3$     |
| N    | $\Phi 100 \pm 3.0$ | $\Phi 100 \pm 3.0$ |
| T1   | $2.2 \pm 0.3$      | $2.2 \pm 0.3$      |
| T2   | $2.2 \pm 0.3$      | $2.2 \pm 0.3$      |
| A    | $\Phi 380 \pm 3.0$ | $\Phi 380 \pm 3.0$ |
| D    | $13.3 \pm 0.3$     | $13.3 \pm 0.3$     |
| E    | $2.3 \pm 0.5$      | $2.3 \pm 0.5$      |
| F    | $10.75 \pm 0.5$    | $10.75 \pm 0.5$    |

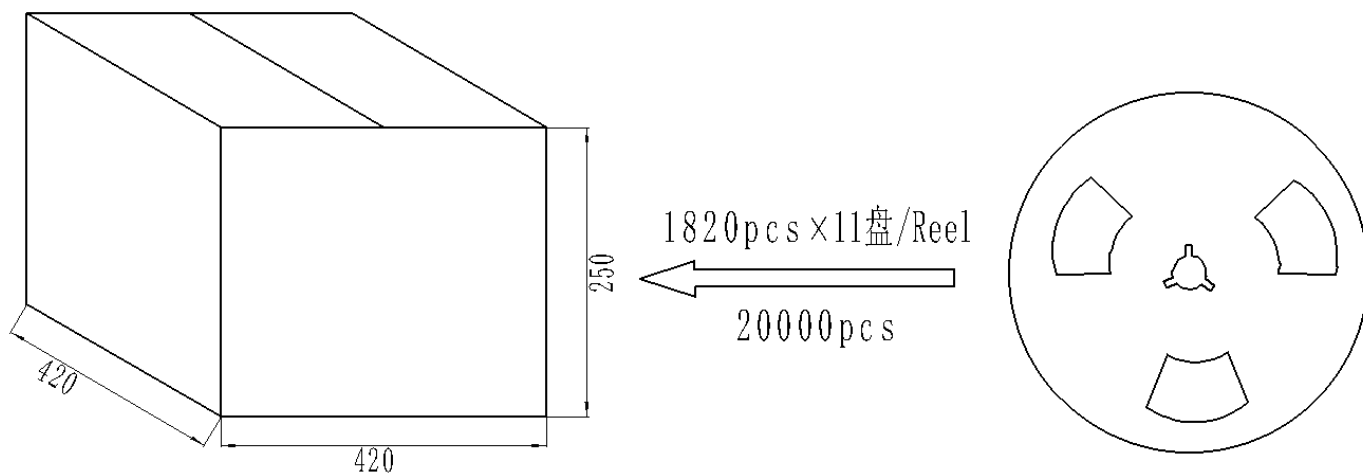
12、包装纸箱 Carton Packing

(单位 Unit: mm)

**3225**

重量: 20 千克/箱

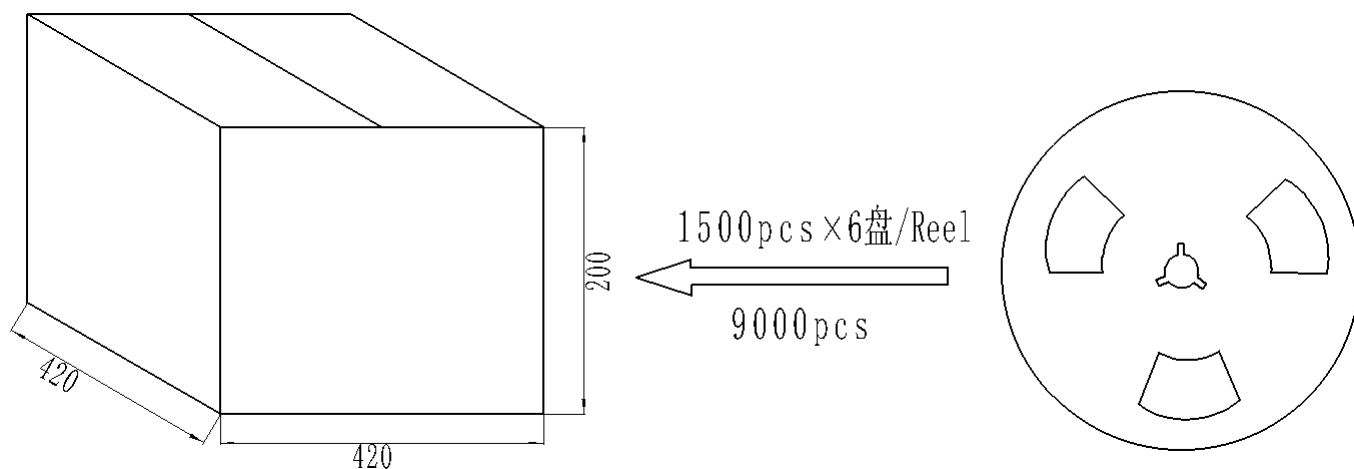
Weight: 20kg/Box



**4032**

重量: 16 千克/箱

Weight: 16kg/Box



UL/CUL 认证:

## CERTIFICATE OF COMPLIANCE

Certificate Number E523420  
Report Reference E523420-2021-11-09  
Date 2021-November-09

Issued to: Huizhou Jingqin Electronic Components Co Ltd  
1st Floor 1Building Haojun Zone1 DaXin Group Shuguang  
Road Chenjiang Street Zhongkai High-tech Zone  
Huizhou Guangdong 516029 CN

This is to certify that  
representative samples of SURGE-PROTECTIVE DEVICES - COMPONENT  
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the  
component requirements in the Standard(s) indicated on  
this Certificate. UL Recognized components are incomplete  
in certain constructional features or restricted in  
performance capabilities and are intended for installation in  
complete equipment submitted for investigation to UL LLC.

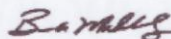
Standard(s) for Safety: UL 1449-Standard for Surge Protective Devices  
CSA C22.2 No. 269.5-17-Canadian Standard for Surge  
Protective Devices – Type 5 - Component

Additional Information: See the UL Online Certifications Directory  
at <https://iq.ulprospector.com> for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark.  
Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified  
and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please  
contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations>.



## CERTIFICATE OF COMPLIANCE

Certificate Number E523420  
Report Reference E523420-2021-11-09  
Date 2021-November-09

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Cat. Nos. 3225, followed by K, followed by 201, 221, 241, 271, 331, 361, 391, 431, 471, 511, 561, 621 or 681

3225K201  
3225K221  
3225K241  
3225K271  
3225K331  
3225K361  
3225K391  
3225K431  
3225K471  
3225K511  
3225K561  
3225K621  
3225K681

Cat. Nos. 4032, followed by K, followed by 201, 221, 241, 271, 301, 331, 361, 391, 431, 471, 511, 561, 621 or 681

4032K201  
4032K221  
4032K241  
4032K271  
4032K301  
4032K331  
4032K361  
4032K391  
4032K431  
4032K471  
4032K511  
4032K561  
4032K621  
4032K681

*B. Mahlen*

Bruce Mahlenholz, Director North American Certification Program

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations>



贴片氧化锌压敏电阻规格书  
SMD zinc oxide varistor specification

JINGQIN®  
精勤元件

TUV 认证:

**CERTIFICATE**  
No. B 112025 0001 Rev. 00

**Holder of Certificate:** Huizhou Jingqin Electronic Components Co., LTD.  
1st Floor, 1 Building Haojun, Zone 1  
DaXin Group, Shuguang Road, Chenjiang Street  
Zhongkai High-tech Zone  
516029 Huizhou City  
PEOPLE'S REPUBLIC OF CHINA

**Certification Mark:**

**Product:** Surge absorber (Varistor)

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 6810021002201  
**Valid until:** 2026-11-18  
**Date,** 2021-11-22

(Michael Xu)

Page 1 of 3  
TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany



Product Service

# CERTIFICATE

No. B 112025 0001 Rev. 00

Table 1: Electrical Rating and characteristics

| Insulation voltage:                         |                               | AC2500V           |                             |                              |                           |                        |                          |                                 |                          |
|---------------------------------------------|-------------------------------|-------------------|-----------------------------|------------------------------|---------------------------|------------------------|--------------------------|---------------------------------|--------------------------|
| Maximum continuous voltage:                 |                               | Details see below |                             |                              |                           |                        |                          |                                 |                          |
| Leakage current:                            |                               | Details see below |                             |                              |                           |                        |                          |                                 |                          |
| Nominal varistor voltage:                   |                               | Details see below |                             |                              |                           |                        |                          |                                 |                          |
| Reference current:                          |                               | 1mA               |                             |                              |                           |                        |                          |                                 |                          |
| Clamping Voltage:                           |                               | Details see below |                             |                              |                           |                        |                          |                                 |                          |
| Class current (8/20 $\mu$ s):               |                               | Details see below |                             |                              |                           |                        |                          |                                 |                          |
| Maximum peak current (8/20 $\mu$ s, 1time): |                               | Details see below |                             |                              |                           |                        |                          |                                 |                          |
| Climatic category:                          |                               | 40/125/21         |                             |                              |                           |                        |                          |                                 |                          |
| Flame class:                                |                               | V-0               |                             |                              |                           |                        |                          |                                 |                          |
| Type                                        | Maximum continuous voltage(V) |                   | Leakage Current (uA) (Max.) | Nominal varistor voltage (V) | Clamping Voltage (Max. V) | Class current (Max. A) | Maximum Peak Current (A) | Energy (10/1000 $\mu$ s) (Max.) | Capacitance (Typical) pF |
|                                             | AC                            | DC                | $I_L$                       | $V_N$                        | $V_C$                     | 8/20 $\mu$ s $I_C$     | 8/20 $\mu$ s (1time)     | J                               | C                        |
| 3225K201                                    | 130                           | 170               | 20                          | 200                          | 340                       | 10                     | 1750                     | 17                              | 250                      |
| 3225K221                                    | 140                           | 180               | 20                          | 220                          | 360                       | 10                     | 1750                     | 20                              | 230                      |
| 3225K241                                    | 150                           | 200               | 20                          | 240                          | 395                       | 10                     | 1750                     | 21                              | 210                      |
| 3225K271                                    | 175                           | 225               | 20                          | 270                          | 455                       | 10                     | 1750                     | 24                              | 185                      |
| 3225K301                                    | 190                           | 250               | 20                          | 300                          | 500                       | 10                     | 1750                     | 26                              | 165                      |
| 3225K331                                    | 210                           | 275               | 20                          | 330                          | 550                       | 10                     | 1750                     | 28                              | 150                      |
| 3225K361                                    | 230                           | 300               | 20                          | 360                          | 595                       | 10                     | 1750                     | 32                              | 140                      |
| 3225K391                                    | 250                           | 320               | 20                          | 390                          | 650                       | 10                     | 1750                     | 35                              | 130                      |
| 3225K431                                    | 275                           | 350               | 20                          | 430                          | 710                       | 10                     | 1750                     | 40                              | 115                      |
| 3225K471                                    | 300                           | 385               | 20                          | 470                          | 775                       | 10                     | 1750                     | 42                              | 105                      |
| 3225K511                                    | 320                           | 415               | 20                          | 510                          | 845                       | 10                     | 1750                     | 45                              | 100                      |
| 3225K561                                    | 350                           | 460               | 20                          | 560                          | 925                       | 10                     | 1750                     | 50                              | 90                       |
| 3225K621                                    | 385                           | 505               | 20                          | 620                          | 1025                      | 10                     | 1750                     | 55                              | 80                       |
| 3225K681                                    | 420                           | 560               | 20                          | 680                          | 1120                      | 10                     | 1750                     | 60                              | 75                       |

Tested according to: EN IEC 61051-1:2018  
IEC 61051-2:1991/AMD1:2009  
IEC 61051-2-2:1991

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ CERTIFICADO ◆ CERTIFICAT



Product Service

## CERTIFICATE

No. B 112025 0002 Rev. 00

**Holder of Certificate:** Huizhou Jingqin Electronic Components Co., LTD.  
1st Floor, 1 Building Haojun, Zone 1  
DaXin Group, Shuguang Road, Chenjiang Street  
Zhongkai High-tech Zone  
516029 Huizhou City  
PEOPLE'S REPUBLIC OF CHINA

**Certification Mark:**



**Product:** Surge absorber  
(Varistor)

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 6810021002301

**Valid until:** 2026-11-18

**Date,** 2021-11-22

( Michael Xu )



Product Service

## CERTIFICATE

No. B 112025 0002 Rev. 00

Table 1: Electrical Rating and characteristics

| Insulation voltage:                    |                               |     |                             | AC2500V                      |                           |                        |                          |                            |                          |
|----------------------------------------|-------------------------------|-----|-----------------------------|------------------------------|---------------------------|------------------------|--------------------------|----------------------------|--------------------------|
| Maximum continuous voltage:            |                               |     |                             | Details see below            |                           |                        |                          |                            |                          |
| Leakage current:                       |                               |     |                             | Details see below            |                           |                        |                          |                            |                          |
| Nominal varistor voltage:              |                               |     |                             | Details see below            |                           |                        |                          |                            |                          |
| Reference current:                     |                               |     |                             | 1mA                          |                           |                        |                          |                            |                          |
| Clamping Voltage:                      |                               |     |                             | Details see below            |                           |                        |                          |                            |                          |
| Class current (8/20 µs):               |                               |     |                             | Details see below            |                           |                        |                          |                            |                          |
| Maximum peak current (8/20 µs, 1time): |                               |     |                             | Details see below            |                           |                        |                          |                            |                          |
| Climatic category:                     |                               |     |                             | 40/125/21                    |                           |                        |                          |                            |                          |
| Flame class:                           |                               |     |                             | V-0                          |                           |                        |                          |                            |                          |
| Type                                   | Maximum continuous voltage(V) |     | Leakage Current (uA) (Max.) | Nominal varistor voltage (V) | Clamping Voltage (Max. V) | Class current (Max. A) | Maximum Peak Current (A) | Energy (10/1000 µs) (Max.) | Capacitance (Typical) pF |
|                                        | AC                            | DC  | I <sub>L</sub>              | V <sub>N</sub>               | V <sub>C</sub>            | 8/20 µs I <sub>C</sub> | 8/20 µs (1time)          | J                          | C                        |
| 4032K201                               | 130                           | 170 | 20                          | 200                          | 340                       | 25                     | 3500                     | 35                         | 500                      |
| 4032K221                               | 140                           | 180 | 20                          | 220                          | 360                       | 25                     | 3500                     | 39                         | 450                      |
| 4032K241                               | 150                           | 200 | 20                          | 240                          | 395                       | 25                     | 3500                     | 42                         | 420                      |
| 4032K271                               | 175                           | 225 | 20                          | 270                          | 455                       | 25                     | 3500                     | 50                         | 370                      |
| 4032K301                               | 190                           | 250 | 20                          | 300                          | 500                       | 25                     | 3500                     | 55                         | 330                      |
| 4032K331                               | 210                           | 275 | 20                          | 330                          | 550                       | 25                     | 3500                     | 58                         | 300                      |
| 4032K361                               | 230                           | 300 | 20                          | 360                          | 595                       | 25                     | 3500                     | 65                         | 280                      |
| 4032K391                               | 250                           | 320 | 20                          | 390                          | 650                       | 25                     | 3500                     | 70                         | 260                      |
| 4032K431                               | 275                           | 350 | 20                          | 430                          | 710                       | 25                     | 3500                     | 80                         | 230                      |
| 4032K471                               | 300                           | 385 | 20                          | 470                          | 775                       | 25                     | 3500                     | 85                         | 210                      |
| 4032K511                               | 320                           | 415 | 20                          | 510                          | 845                       | 25                     | 3500                     | 90                         | 200                      |
| 4032K561                               | 350                           | 460 | 20                          | 560                          | 925                       | 25                     | 3500                     | 92                         | 180                      |
| 4032K621                               | 385                           | 505 | 20                          | 620                          | 1025                      | 25                     | 3500                     | 95                         | 160                      |
| 4032K681                               | 420                           | 560 | 20                          | 680                          | 1120                      | 25                     | 3500                     | 100                        | 150                      |

Tested according to: EN IEC 61051-1:2018  
IEC 61051-2:1991/AMD1:2009  
IEC 61051-2-2:1991  
IEC 62368-1:2018 Annex G.8.1

贴片氧化锌压敏电阻规格书  
SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
精勤元件

CQC 认证:

| CQC 产品认证证书                                                                          |                                                                                                                                        |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 证书编号: CQC21001319729                                                                | 发证日期: 2021 年 11 月 10 日<br>有效期至: 长期有效                                                                                                   |
| 委托人名称<br>及注册地址                                                                      | 惠州精勤电子元件有限公司<br>惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼                                                                                         |
| 制造商名称<br>及注册地址                                                                      | 惠州精勤电子元件有限公司<br>惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼                                                                                         |
| 生产企业名称<br>及生产地址                                                                     | 惠州精勤电子元件有限公司<br>惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼                                                                                         |
| 产品名称和系列、<br>规格、型号                                                                   | 压敏电阻器 (贴片式)<br>3225@ (201~681) 系列压敏电压范围为 200V~680V; 最大连续交流电压: 130VAC~420VAC;<br>@为空白或者字母 K: 表示压敏电压的允许偏差 K: ±10%, 气候类别为 40/125/21, 详见附件 |
| 产品标准和技术要求                                                                           | GB/T 10193-1997; GB/T 10194-1997                                                                                                       |
| 认证模式                                                                                | 产品型式试验+获证后监督                                                                                                                           |
| 上述产品符合 CQC11-471551-2015 认证规则的要求, 特发此证。<br>本证书的有效性依据发证机构的定期监督获得保持。                  |                                                                                                                                        |
| 可通过扫描下方二维码或登录国家认监委网站 (www.cnca.gov.cn) 查验证书信息                                       |                                                                                                                                        |
|  | 签发: 谢肇煦<br>中国质量认证中心                                                                                                                    |
|  |                                                   |
| <a href="http://www.cqc.com.cn">http://www.cqc.com.cn</a>                           | 中国·北京·南四环西路188号9区 100070 电话: +86 10 83886666                                                                                           |

C 0509174

贴片氧化锌压敏电阻规格书  
SMD zinc oxide varistor specification

JINGQIN<sup>®</sup>  
精勤元件



## CERTIFICATE OF PRODUCT CERTIFICATION

CERTIFICATE NO.: CQC21001319729

Valid from: Nov.10,2021

Valid until:long-term

**NAME AND REGISTERED  
ADDRESS OF THE APPLICANT**

Huizhou Jingqin Electronic Components Co.LTD  
1st Floor,1Building Haojun,Zone1,DaXin Group,Shuguang Road,Chenjiang Street,Zhongkai  
High-tech Zone,Huizhou city

**NAME AND REGISTERED  
ADDRESS OF THE  
MANUFACTURER**

Huizhou Jingqin Electronic Components Co.LTD  
1st Floor,1Building Haojun,Zone1,DaXin Group,Shuguang Road,Chenjiang Street,Zhongkai  
High-tech Zone,Huizhou city

**NAME AND LOCATION  
OF THE FACTORY**

Huizhou Jingqin Electronic Components Co.LTD  
1st Floor,1Building Haojun,Zone1,DaXin Group,Shuguang Road,Chenjiang Street,Zhongkai  
High-tech Zone,Huizhou city

**PRODUCT NAME, MODEL  
AND SPECIFICATION**

SMD Varistors  
3225@(201~681)系列压敏电压范围为 200V~680V; 最大连续交流电压: 130VAC~420VAC; @为空白或者字母 K: 表示压敏电压的允许偏差 K:±10%, 气候类别为 40/125/21, 详见附件

**THE STANDARDS AND  
TECHNICAL REQUIREMENTS  
FOR THE PRODUCTS**

GB/T 10193-1997;GB/T 10194-1997

**TYPE OF CERTIFICATION  
SCHEMES**

Type Testing of Product + Follow up Factory Inspection

This is to certify that the above mentioned product(s) complies with the requirements of certification rules of CQC11-471551-2015.  
The validity of the certificate is subject to positive result of the regular follow up inspection by issuing certification body.

The certificate information is available through the QR code below or CNCA's website: [www.cnca.gov.cn](http://www.cnca.gov.cn)



SIGNATURE:

谢肇煦



CHINA QUALITY CERTIFICATION CENTRE



<http://www.cqc.com.cn>

Section 9, No. 188, Nansihuan Xilu, Beijing 100070 P.R.China

Tel: +86 10 83886666

C 0509174

贴片氧化锌压敏电阻规格书  
SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
精勤元件



## 产品认证证书

证书编号: CQC21001320392

发证日期: 2021 年 11 月 12 日

有效期至: 长期有效

|                   |                                                                                                                                               |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 委托人名称<br>及注册地址    | 惠州精勤电子元件有限公司<br>惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼                                                                                                |
| 制造商名称<br>及注册地址    | 惠州精勤电子元件有限公司<br>惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼                                                                                                |
| 生产企业名称<br>及生产地址   | 惠州精勤电子元件有限公司<br>惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼                                                                                                |
| 产品名称和系列、<br>规格、型号 | 压敏电阻器 (贴片式)<br>4032@ (201~681) 系列压敏电压范围为 200V~680V; 最大连续交流电压: 130VAC~420VAC;<br>@为空白或者字母 K: 表示压敏电压的允许偏差 K: $\pm 10\%$ , 气候类别为 40/125/21, 详见附件 |
| 产品标准和技术要求         | GB/T 10193-1997; GB/T 10194-1997; GB 4943.1-2011; GB 8898-2011                                                                                |
| 认证模式              | 产品型式试验+获证后监督                                                                                                                                  |

上述产品符合 CQC11-471551-2015 认证规则的要求, 特发此证。  
本证书的有效性依据发证机构的定期监督获得保持。

可通过扫描下方二维码或登录国家认监委网站 (www.cnca.gov.cn) 查验证书信息



签发:

谢肇煦



中国质量认证中心



<http://www.cqc.com.cn>

中国·北京·南四环西路188号9区 100070

电话: +86 10 83886666

C 0513246

贴片氧化锌压敏电阻规格书  
SMD zinc oxide varistor specification

JINGQIN<sup>®</sup>  
精勤元件



## CERTIFICATE OF PRODUCT CERTIFICATION

CERTIFICATE NO.: CQC21001320392

Valid from: Nov.12,2021

Valid until:long-term

|                                                           |                                                                                                                                                                  |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAME AND REGISTERED ADDRESS OF THE APPLICANT              | Huizhou Jingqin Electronic Components Co.LTD<br>1st Floor,1Building Haojun,Zone1,DaXin Group,Shuguang Road,Chenjiang Street,Zhongkai High-tech Zone,Huizhou city |
| NAME AND REGISTERED ADDRESS OF THE MANUFACTURER           | Huizhou Jingqin Electronic Components Co.LTD<br>1st Floor,1Building Haojun,Zone1,DaXin Group,Shuguang Road,Chenjiang Street,Zhongkai High-tech Zone,Huizhou city |
| NAME AND LOCATION OF THE FACTORY                          | Huizhou Jingqin Electronic Components Co.LTD<br>1st Floor,1Building Haojun,Zone1,DaXin Group,Shuguang Road,Chenjiang Street,Zhongkai High-tech Zone,Huizhou city |
| PRODUCT NAME, MODEL AND SPECIFICATION                     | SMD Varistors<br>4032@ (201~681)系列压敏电压范围为 200V~680V; 最大连续交流电压: 130VAC~420VAC; @为空白或者字母 K: 表示压敏电压的允许偏差 K:±10%, 气候类别为 40/125/21, 详见附件                              |
| THE STANDARDS AND TECHNICAL REQUIREMENTS FOR THE PRODUCTS | GB/T 10193-1997;GB/T 10194-1997;GB 4943.1-2011;GB 8898-2011                                                                                                      |
| TYPE OF CERTIFICATION SCHEMES                             | Type Testing of Product + Follow up Factory Inspection                                                                                                           |

This is to certify that the above mentioned product(s) complies with the requirements of certification rules of CQC11-471551-2015.  
The validity of the certificate is subject to positive result of the regular follow up inspection by issuing certification body.

The certificate information is available through the QR code below or CNCA's website: [www.cnca.gov.cn](http://www.cnca.gov.cn)



SIGNATURE:

谢肇煦

CHINA QUALITY CERTIFICATION CENTRE



<http://www.cqc.com.cn>

Section 9, No.188, Nansihuan Xilu, Beijing 100070 P.R. China

Tel: +86 10 83886666

C 0513246

# 贴片氧化锌压敏电阻规格书 SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
精勤元件

## RoHS 环保证书:



### 测试报告

No. CANEC2113078202

日期: 2021年07月22日 第1页,共7页

惠州精勤电子元件有限公司

中国惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼

以下测试之样品是由申请者所提供及确认: 贴片压敏电阻

SGS工作编号: CP21-037916 - GZ

型号: 贴片压敏电阻

样品接收日期: 2021年07月16日

测试周期: 2021年07月16日 - 2021年07月22日

测试要求: 根据客户要求测试

测试方法: 请参见下一页

测试结果: 请参见下一页

结论: 基于所送样品进行的测试, 镉、铅、汞、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸酯(如邻苯二甲酸二丁酯(DBP)、邻苯二甲酸丁苯酯(BBP)、邻苯二甲酸二(2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP))的测试结果符合欧盟RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863的限值要求。

通标标准技术服务有限公司广州分公司  
授权签名

鄧莎莎

Sasa Zhi 鄧莎莎  
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贴片氧化锌压敏电阻规格书  
SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
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Test Report

No. CANEC2113078201

Date: 22 Jul 2021

Page 1 of 7

HUIZHOU JINGQIN ELECTRONIC COMPONENTS CO. LTD

1ST FLOOR, 1 BUILDING HAOJUN, ZONE 1, DAXIN GROUP, SHUGUANG ROAD, CHENJIANG STREET, ZHONGKAI HIGH-TECH ZONE, HUIZHOU CITY CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : SMD Varistor

SGS Job No. : CP21-037916 - GZ

Model No. : SMD Varistor

Date of Sample Received : 16 Jul 2021

Testing Period : 16 Jul 2021 - 22 Jul 2021

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Sasa zhi

Sasa Zhi  
Approved Signatory



SGS-CSTC Standards Technical Services Co., Ltd.  
Guangzhou Branch Testing Center Chemical Laboratory

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SMD zinc oxide varistor specification

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精勤元件

REACH 环保证书:



测试报告  
(SVHC)

No. CANEC2113078204

日期: 2021年07月22日 第1页,共19页

惠州精勤电子元件有限公司  
中国惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼

以下测试之样品是由申请者所提供及确认: 贴片压敏电阻

SGS工作编号: CP21-037916 - GZ

型号: 贴片压敏电阻

样品接收日期: 2021年07月16日

测试周期: 2021年07月16日 - 2021年07月22日

测试要求: 根据客户要求,

(i) 基于欧洲化学品管理署截止2021年7月8日公布的供授权审议的高关注物质候选清单(根据欧盟第1907/2006号REACH法规), 对219种高关注物质(SVHC)进行筛分测试。

(ii) 基于WTO 2021年6月1日的通知, 对1种潜在的高关注物质(SVHC)进行筛分测试。

测试结果: 请参见下一页

总结:

根据具体的范围和筛分测试, 所提交样品中SVHC测试结果 $\leq 0.1\%$ (w/w)。

通过

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[Http://www.jqsmc.com](http://www.jqsmc.com), E-mail: [dwt@jqsmc.com](mailto:dwt@jqsmc.com)  
电话 TEL: 0752-3888557, 18610641108

贴片氧化锌压敏电阻规格书  
SMD zinc oxide varistor specification

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Test Report  
(SVHC)

No. CANEC2113078203

Date: 22 Jul 2021

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HUIZHOU JINGQIN ELECTRONIC COMPONENTS CO. LTD  
1ST FLOOR, 1 BUILDING HAOJUN, ZONE 1, DAXIN GROUP, SHUGUANG ROAD, CHENJIANG  
STREET, ZHONGKAI HIGH-TECH ZONE, HUIZHOU CITY  
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : SMD Varistor

SGS Job No. : CP21-037916 - GZ

Model No. : SMD Varistor

Date of Sample Received : 16 Jul 2021

Testing Period : 16 Jul 2021 - 22 Jul 2021

Test Requested : As requested by client, SVHC screening is performed according to:  
(i) Two hundred and nineteen (219) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jul 8, 2021 regarding Regulation (EC) No 1907/2006 concerning the REACH.  
(ii) One (1) potential Substances of Very High Concern (SVHC) in the notification of WTO on Jun 1, 2021.

Test Results : Please refer to next page(s).

Summary :

|                                                                                                                                     |      |
|-------------------------------------------------------------------------------------------------------------------------------------|------|
| According to the specified scope and evaluation screening, the test results of SVHC are $\leq 0.1\%$ (w/w) in the submitted sample. | PASS |
|-------------------------------------------------------------------------------------------------------------------------------------|------|

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

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Sasa Zhi  
Approved Signatory



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# 贴片氧化锌压敏电阻规格书 SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
精勤元件

H.F 无卤环保证书:



## 测试报告

No. CANEC2113078206

日期: 2021年07月29日 第1页,共4页

惠州精勤电子元件有限公司

中国惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼

以下测试之样品是由申请者所提供及确认: 贴片压敏电阻

SGS工作编号: CP21-037916 - GZ  
型号: 贴片压敏电阻  
样品接收日期: 2021年07月16日  
测试周期: 2021年07月16日 - 2021年07月29日  
测试要求: 根据客户要求测试  
测试方法: 请参见下一页  
测试结果: 请参见下一页

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# 贴片氧化锌压敏电阻规格书

## SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
精勤元件



### 测试报告

No. CANEC2113078206

日期: 2021年07月29日 第2页,共4页

测试结果:

#### 测试样品描述:

| 样品编号 | SGS样品ID          | 描述   |
|------|------------------|------|
| SN1  | CAN21-130782.002 | 黑色本体 |

备注:

- (1) 1 mg/kg = 0.0001%
- (2) MDL = 方法检测限
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

#### 卤素

测试方法: 参考EN 14582:2016, 用 IC 分析。

| 测试项目   | 单位    | MDL | 002 |
|--------|-------|-----|-----|
| 氟 (F)  | mg/kg | 50  | ND  |
| 氯 (Cl) | mg/kg | 50  | ND  |
| 溴 (Br) | mg/kg | 50  | ND  |
| 碘 (I)  | mg/kg | 50  | ND  |

除非另有说明, 此报告结果仅对测试的样品负责。本报告未经本公司书面许可, 不可部分复制。  
检测报告仅用于客户科研、教学、内部质量控制、产品研发等目的, 仅供内部参考。



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SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
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Test Report

No. CANEC2113078205

Date: 29 Jul 2021

Page 1 of 4

HUIZHOU JINGQIN ELECTRONIC COMPONENTS CO. LTD

1ST FLOOR, 1 BUILDING HAOJUN, ZONE 1, DAXIN GROUP, SHUGUANG ROAD, CHENJIANG STREET, ZHONGKAI HIGH-TECH ZONE, HUIZHOU CITY CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : SMD Varistor

SGS Job No. : CP21-037916 - GZ  
Model No. : SMD Varistor  
Date of Sample Received : 16 Jul 2021  
Testing Period : 16 Jul 2021 - 29 Jul 2021  
Test Requested : Selected test(s) as requested by client.  
Test Method : Please refer to next page(s).  
Test Results : Please refer to next page(s).

Signed for and on behalf of  
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

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SMD zinc oxide varistor specification

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Test Report

No. CANEC2113078205

Date: 29 Jul 2021

Page 2 of 4

Test Results :

Test Part Description :

| Specimen No. | SGS Sample ID    | Description |
|--------------|------------------|-------------|
| SN1          | CAN21-130782.002 | Black body  |

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected ( < MDL )
- (4) "-" = Not Regulated

Halogen

Test Method : With reference to EN 14582:2016, analysis was performed by IC.

| Test Item(s)  | Unit  | MDL | 002 |
|---------------|-------|-----|-----|
| Fluorine (F)  | mg/kg | 50  | ND  |
| Chlorine (Cl) | mg/kg | 50  | ND  |
| Bromine (Br)  | mg/kg | 50  | ND  |
| Iodine (I)    | mg/kg | 50  | ND  |



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Member of the SGS Group (SGS SA)

ISO9001 质量管理体系认证:





# 环境管理体系认证证书

证书编号: 04922E00009R0S

惠州精勤电子元件有限公司

地址: 广东省惠州市仲恺高新区陈江街道曙光大道大欣集团内一区皓钧第一栋一楼  
统一社会信用代码: 91441300MA5470CK8X

根据贵组织的申请, 本公司依据《环境管理体系 要求及使用指南》  
(GB/T24001-2016/ISO14001:2015) 规定实施认证审核, 经评定符合要求,  
特此发证。环境管理体系覆盖范围为:

压敏电阻器(贴片式)、热敏电阻器(贴片式)、  
电容器(贴片式)的生产服务及相关管理活动

首次发证日期: 2022年01月07日

证书有效日期: 2022年01月07日至2025年01月06日

上述范围若涉及行政许可前置审批, 强制性认证, 本证书仅覆盖被许可资质, 证书范围内的产品及服务。证书有效期内, 获证组织须按 CTC 规定接受年度监督, 加贴合格标识, 证书方为有效。本证书信息可在国家认证认可监督管理委员会官方网站 ([www.cnca.gov.cn](http://www.cnca.gov.cn)) 上查询。

第一次监审合格  
标识加贴处

第二次监审合格  
标识加贴处

中国认可  
国际互认  
管理体系  
MANAGEMENT SYSTEM  
CNAS C049-M

广东质检中诚认证有限公司

中国广东省广州市黄埔区科学城科学大道10号226房 邮编: 510670  
电话: 020-89232333 传真: 020-89232078  
网址: <http://www.qtcctc.org>

董事长



# ISO 14001

**Certificate No. : 04922E00009R0S**

**Address:** 1/F, Building 1, Haojun, District 1, Daxin Group, Shuguang Avenue, Chenjiang Street,  
Zhongkai High-tech Zone, Huizhou City, Guangdong Province, P.R. China  
**Unified Social Credit Code:** 91441300MA5470CK8X

**Manufacture service of varistor (chip type), thermistor (chip type) and capacitor (chip type) and related management activities**

**Initial date:** 2022-01-07

**Term of validity of this certificate: 2022-01-07 to 2025-01-06**

The scope of the certified should limits within the administrative licensing or China Compulsory Certification.  
The certified organization shall be subject to annual supervision of CTC during the validity period.  
The Certificate is only valid with the annual surveillance labels. The certificate information can be found at the CNCA's official website ([www.cnca.gov.cn](http://www.cnca.gov.cn)).

## The first surveillance

## The second surveillance



中国认可  
国际互认  
管理体系  
MANAGEMENT SYSTEM  
CNAS C049-M

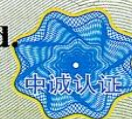


Lang sui Ping  
Chairman

**Guangdong Quality Testing CTC Certification Co., Ltd**

**Address: Room 226, No. 10, Science Avenue, Huangpu District, Guangzhou,  
Guangdong, China 510670**

Tel.: 86-020-89232333    Fax: 86- 020-89232078    Web: [www.gtctc.org](http://www.gtctc.org)



贴片氧化锌压敏电阻规格书  
SMD zinc oxide varistor specification

JING QIN<sup>®</sup>  
精勤元件

IATF16949 汽车管理体系认证:

Certificate of Registration



This is to certify that the Quality Management System of

**Huizhou Jingqin Electronic Components Co., Ltd.**

1st Floor and 1st Floor Mezzanine, Building 1, Haojun, District 1, Daxin Group, Chenjiang Street, Shuguang Avenue, Zhongkai High-tech Zone, Huizhou City, Guangdong Province, 516029, China.

applicable to

**Manufacturing of chip varistors, chip thermistors, chip capacitors**

has been assessed and registered by

NQA, Warwick House, Houghton Hall Park, Houghton Regis, Dunstable LU5 5ZX, Bedfordshire, England

against the provisions of

**IATF 16949:2016**

(Clause 8.3 product design of IATF 16949 : 2016 is justifiably excluded)

This registration is subject to the company maintaining a quality management system, to the above standard, which will be monitored by NQA

  
Managing Director



NQA Certificate No: T178656  
IATF Certificate No: 0453716  
Date: 13 July 2022  
Valid Until: 12 July 2025  
Version: 1



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Revision Date: Feb 2017

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