

深圳市业展电子有限公司

承认书

SPECIFICATION FOR APPROVAL

客户名称

Customer Name _____

客户料号

Customer P/N _____

产品名称

Product Name

Weld Precision Resistors – SBN Series

产品规格

Product Type

SBN-F-10J-t

申请承认日期

Apply Date

2019-07-16

版本

REV. _____

供货商属性 代理商

制造商 深圳市业展电子有限公司

Vendor Type Agency

Manufacturer

Note: 禁止使用 1 级环境管理物质.遵守 ACBEL"环境管理物质规范"中所要求之含量标准.

Restrict use of hazardous substances of level 1; Comply with "Specification for Hazardous Substances and Materials Management" of ACBEL

| 供货商印鉴 Vendor Stamp | APPROVED | CHECKED | PREPARED | 承认印鉴 Stamp |
|-----------------------|----------|---------|----------|---------------|
| | | | 邓小辉 | |

Mainland China: 深圳市业展电子有限公司

Shenzhen Yezhan Electronics Co., Ltd.

Add: 深圳市龙华区环观中路荣倡工业园 7 栋 4 楼

Tel: 0755-26517682 /18926048203

Fax: 0755-83918284

E-mail: caixiaojuan@yezhan.com.cn

| | | |
|----------------------------------------------------------------|----------|--------------|
| 标准书名 Classification 承认书 Specification | Spec No. | YZ-QR-EN-007 |
| 品名：精密焊接电阻 SBN Series Product Name: Weld Precision Resistors | Version | 1.6 |
| | Page | 5-2 |

1. 一般事项 General

1.1 适用范围 Scope

本承认书适用于 制造之[精密焊接电阻]。

This specification is available for Weld Precision Resistors manufactured by

Shenzhen Yezhan Electronics Co., Ltd.

1.2 品质 Quality

本电阻器的制造系经高质量管理程序，并具有高信赖性的质量保证，且符合 RoHS 和无卤要求。

The resistor is manufactured by highly quality-controlled process and guaranteed high reliability,

it meets RoHS & Halogen-Free requirement.

1.3 标准试验状态 Standard measuring conditions

温度 $20 \pm 2^\circ\text{C}$ 、湿度 $65 \pm 5\%$ 。

但在温度 $5 \sim 35^\circ\text{C}$ 、湿度 $45 \sim 85\%$ 之情况下，仍可给予判定。

Temperature $20 \pm 2^\circ\text{C}$, Humidity $65 \pm 5\%$.

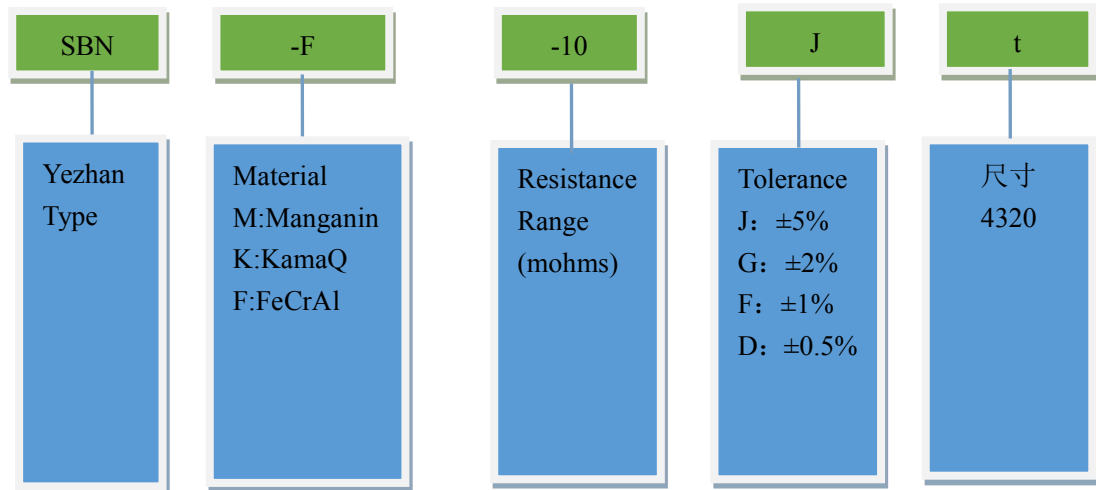
Being no doubt about the judgment, measurements can be made within the following Temperature

$5 \sim 35^\circ\text{C}$, Humidity $45 \sim 85\%$.

1.4 形名 (例) Type designation (example)

依使用种类、材料、公称电阻值、电阻值容许差而区别，其构造如下：

The type designation shall be in the following form and as specified.

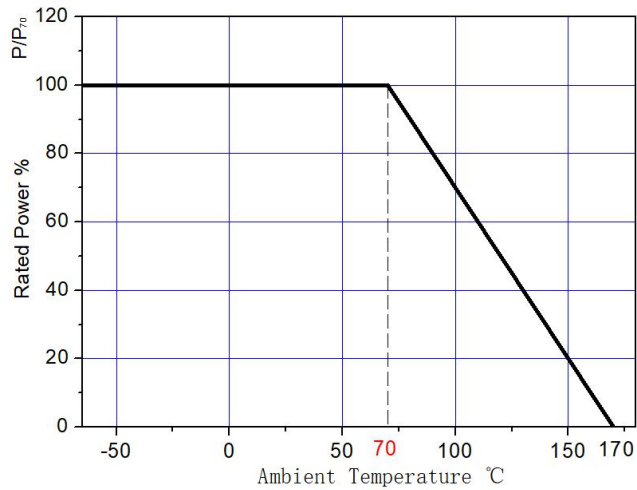


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|------------------------------------------------------------------|----------|--------------|
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| | Page | 5-3 |

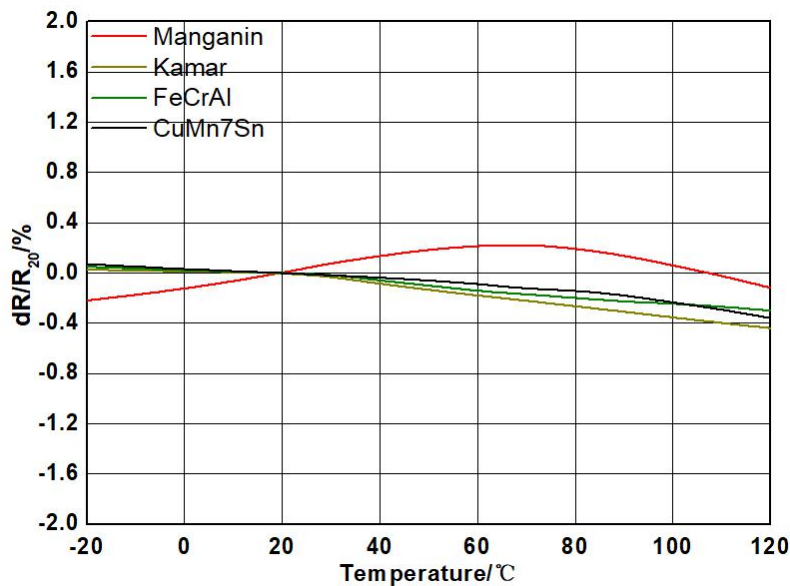
1.5 材质 Material

| 代号 Symbol | 材料 Material | 成分 Components | 电阻率 Resistance rate |
|--------------|---------------------|----------------------------------------------------|---------------------------------|
| K | 卡玛 Kama | Cr 19-21%, Al 2.5-42%, Fe 2.0-3.0%, Ni bal. | 133 $\mu\Omega \cdot \text{cm}$ |
| M | 锰铜 Manganin wire | Cu 85%, Mn 12%, Ni 3% | 44 $\mu\Omega \cdot \text{cm}$ |
| F | 铁铬铝 FeCrAl | Cr 21-23%, Al 5.0-7.0% Fe 余量, Re 适量, Nb 0.5% | 145 $\mu\Omega \cdot \text{cm}$ |

1.6 功率曲线 Power Derating



1.7 温度系数曲线 TCR Derating



| | | |
|-------------------------------------------------------------------|----------|--------------|
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| | Page | 5-4 |

1.8外形 External

| 项 目 | 参 数 |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 图 解 | <p>The diagram illustrates the physical dimensions of the resistor. The top view shows a U-shaped resistor with a total length W, a height H, and a thickness D. The distance between the two leads is B, and the length of each lead is T. The side view shows a height A and a maximum thickness of 1.0max.</p> |
| H(高度) | $3.3\text{mm}\pm 0.5\text{mm}$ |
| A(线宽) | $6.1\text{mm}\pm 0.4\text{mm}$ |
| D(线厚) | $0.33\text{mm}\pm 0.1\text{mm}$ |
| T(脚长) | $2.8\text{mm}\pm 0.3\text{mm}$ |
| W(全长) | $11\text{mm}\pm 0.5\text{mm}$ |
| B(缺距) | $4.2\pm 0.5\text{mm}$ |
| 阻 值 | $10\text{m}\Omega\pm 5\%$ |
| 额定功率 | 5W |
| 使用温度 | $-65^{\circ}\text{C}\sim 170^{\circ}\text{C}$ |

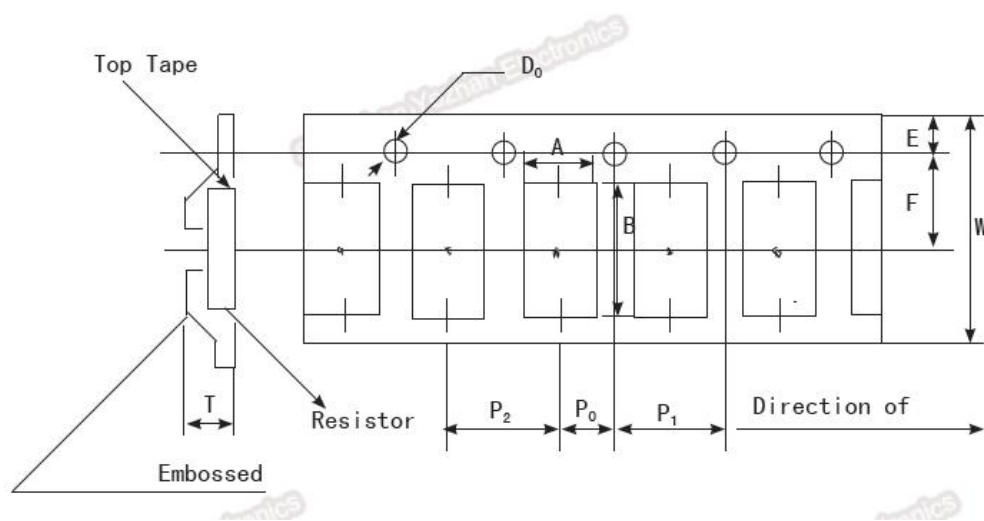
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| Product Name: Weld Precision Resistors | Page | 5-5 |

2 应用范围 Applications

- 混合应用的电源电流传感器 Current sensor for power hybrid applications
- 变频器 Frequency converters
- 电源模块 Power modules
- 汽车市场的高电流应用 High current applications for the automotive market
- 体系认证 IATF16949

3 包装 Packaging

Embossed plastic Tape Specifications



Unit: mm

| Size | A | B | W | E | F | P ₀ | P ₁ | P ₂ | D ₀ | T | Quantity (EA) |
|------|-----|------|----|------|------|----------------|----------------|----------------|----------------|-----|---------------|
| 4312 | 4.3 | 12.5 | 24 | 1.55 | 7.5 | 6 | 12 | 12 | 1.50 | 3.8 | 2000 |
| 4320 | 7.0 | 12.5 | 24 | 1.55 | 11.2 | 6 | 12 | 12 | 1.50 | 3.8 | 1000 |

4 工作特性 Performance Date

| TEST | CONDITIONS OF TESE | TEST LIMITS |
|---------------------------|--------------------------------------------------------------|-----------------------------------|
| Shot time overload | 5x rated power for 5 s | $\pm(1.0\%+0.0005\Omega)\Delta R$ |
| Low temperature storage | -65°C for 45 min | $\pm(1.0\%+0.0005\Omega)\Delta R$ |
| High temperature exposure | 1000 h at +170°C | $\pm(1.0\%+0.0005\Omega)\Delta R$ |
| Bias humidity | +85°C, 85%RH, 10%bias, 1000h | $\pm(1.0\%+0.0005\Omega)\Delta R$ |
| Mechanical shock | 100 g's for 6 ms, 5 pulses | $\pm(1.0\%+0.0005\Omega)\Delta R$ |
| Vibration | Frequency varied 10 Hz to 200 Hz in 1 min, 3 directions, 12h | $\pm(1.0\%+0.0005\Omega)\Delta R$ |
| Load life | 1000h at +70°C, 1.5h "ON", 0.5h "OFF" | $\pm(1.0\%+0.0005\Omega)\Delta R$ |
| Resistance to solder heat | +260°C solder, 10s to 12s dwell, 25mm/s emergence | $\pm(1.0\%+0.0005\Omega)\Delta R$ |
| Moisture resistance | MIL-STD-202, method 106, 0% power, 7a and 7b not required | $\pm(1.0\%+0.0005\Omega)\Delta R$ |