



富捷科技

Product Datasheet

产品规格说明书

FSR Series

Plug-In Jumper Resistors

FSR 系列插件跳线电阻

安徽省富捷电子科技有限公司

ANHUI FOJAN ELECTRONICS TECHNOLOGY CO., LTD

安徽省马鞍山市郑蒲港新区金蒲电子产业园

JINPU ELECTRONIC INDUSTRIAL PARK, ZHENGPU PORT NEW
DISTRICT, MAANSHAN CITY, ANHUI PROVINCE

zoey@fosan.net.cn www.fosan.vip

FSR 系列插件跳线电阻

Plug-In Jumper Resistors

FSR Series



■ 特点 (Features)

- 过流能力强
- 高精度 10%、5%、2%
- 更宽的阻值范围
- 低电感
- 无铅, 符合 RoHS、Reach 要求
- 特殊规格可定制
- High overcurrent capability
- High precision 10%、5%、2%
- Wider resistance range
- Low inductance
- Pb-free to Meet RoHS 、Reach Requirements
- Special specifications can be customized

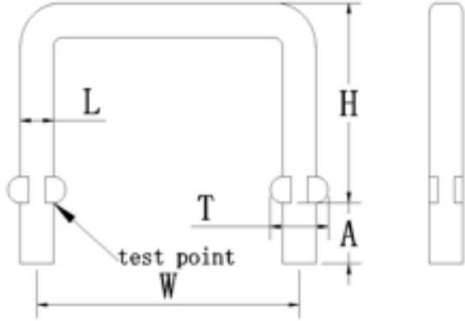
■ 应用 (Application)

- 驱动技术、功率电子
- 大电流脉冲电路
- 电流采样、反馈电路
- 家电控制
- 低电感电路
- 电源管理系统
- 汽车电子控制系统
- Drive technology, power electronics
- High Current Pulse Circuit
- Current Sampling, Feedback Circuit
- Variable frequency drives and servo drive systems
- Current sensing
- power management system
- Automotive electronic control system

■ 产品料号 (Parts Number Explanation) 示例: FSR2015JR005BCU

FSR 系列	20 线径	15 跨距	J 精度	R005 字码	B 包装别	C 材质	U 形状
FOSAN Type	20:2.0mm 25:2.5mm	15: :15mm	G:2% J:5%	R005=1mΩ 0M50=0.5mΩ	B: Bulk	C: Constantan	U: U 型
Type	Diameter	Pitch	Tolerance	Resistance	Packaging	Material	Special

尺寸 (Dimension)

产品尺寸 Product Dimension						
	单位 (unit) : mm					
型别 Type	阻值 Resistance (mΩ)	产品尺寸 Product Dimension				
		L	T	W	A	H
2512	0.1~6	2.0±0.1	2.7±0.2	10±0.5	3.5±0.5	12±2

电气特性 (Electrical characteristics)

型别 Type	阻值 Resistance (mΩ)	材质 Element Material	额定电流 Rated current (A)	精度 Tolerance(%)	使用温度范围 Operating Temperature (°C)
/	5	康铜 Constantan	15.7	±2%、±5%	-55~170

如有非标准品的需求,请联系我们的业务部门 For non-standard parts, please contact our sales dept.

印字标识 (Marking)

The resistance value of the product is expressed in two ways:

- The decimal point of Ω is indicated by the character "R".
- Using "m" to indicate the decimal point of mΩ.

E.g.,

R001 1%=1mΩ 1%;

0m50 1%=0.5mΩ 1%; 2m50 1%=2.5mΩ 1%

产品阻值使用两种方式表示:

- 以 "R" 字指示 Ω 的小数点的位置
- 以 "m" 字指示 mΩ 的小数点的位置

例:

R001 1%=1mΩ 1%;

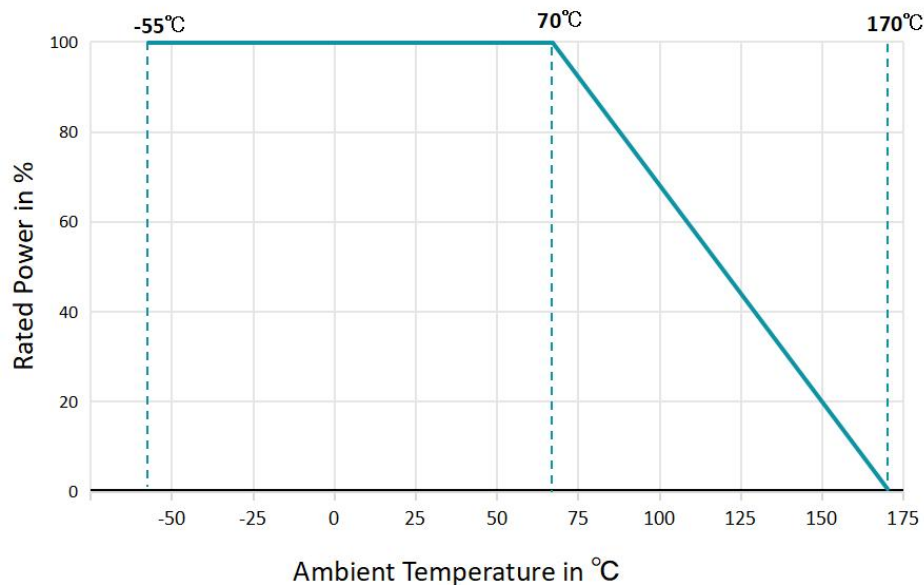
0m50 1%=0.5mΩ 1%; 2m50 1%=2.5mΩ 1%

性能 (Performance)

Test Items 测试项目	Reference 依据标准	Conditions of Test 测试条件	Test Limits 测试结果
High Temperature Exposure (Storage) 高温存储	AEC-Q200-REV D-Test 3 MIL-STD202 Method 108	T=170°C, 1000hrs, Measurement at 24hrs after test conclusion. 170°C, 1000 小时, 测试结束后 24 小时测量。	$\Delta R \leq \pm 1\%$

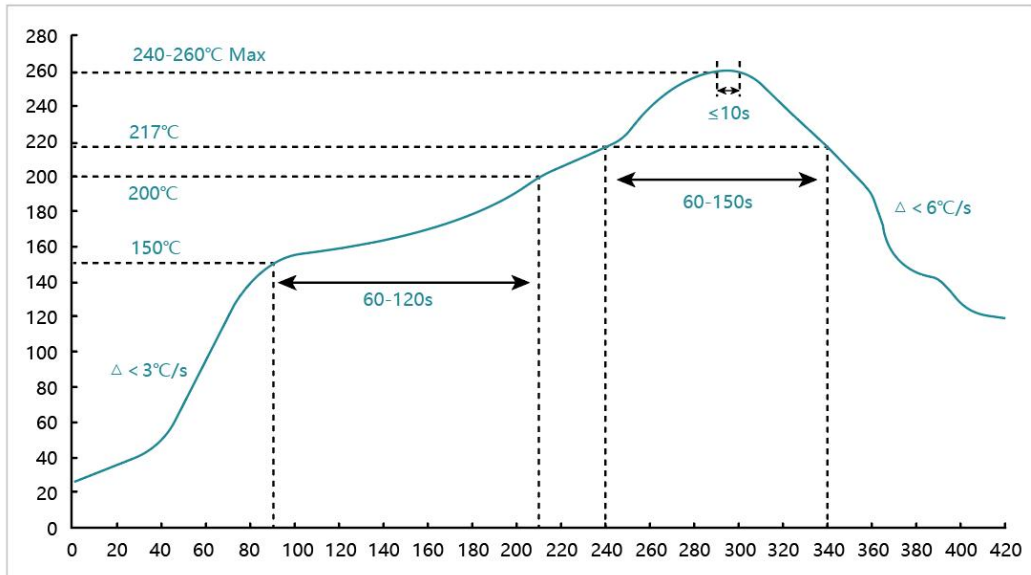
Temperature Cycling 温度循环	AEC-Q200-REV D-Test 4 JESD22 Method JA-104	1000 Cycle (-55°C to 125°C) Measurement at 24hrs after test conclusion. 1000 次循环 (-55°C至 125°C) 测试结束后 24 小时进行测量。	$\Delta R \leq \pm 1\%$
Short time overload 短时过载	IEC60115-1 4.13	2.5 X rated power for 5s 2.5 倍额定功率, 5 秒	$\Delta R \leq \pm 1\%$
Biased Humidity 高温高湿	AEC-Q200-REV D-Test 7 MIL-STD-202 Method 103	10% Rated power at 85°C, RH:85%, 1000Hrs, Measurement at 24hrs after test conclusion. 10%额定功率, 85°C, 相对湿度: 85%, 1000 小时, 测试结束后 24 小时测量。	$\Delta R \leq \pm 0.5\%$
Load Life 负载寿命	AEC-Q200-REV D-Test 8 MIL-STD-202 Method 108	1000 h at +70 °C, 1.5 h "ON" , 0.5 h "OFF" , Measurement at 24hrs after test conclusion. 1000 小时, +70 °C, 1.5 小时"开启", 0.5 小时"关闭", 测试结束后 24 小时测量。	$\Delta R \leq \pm 1\%$
Resistance to Soldering Heat 耐焊接热	AEC-Q200-REV D-Test 15 MIL-STD-202 Method 210	T=260±5°C solder, 10±1 sec dwell 260±5°C焊接, 停留 10±1 秒。	$\Delta R \leq \pm 1\%$
Mechanical Shock 机械冲击	AEC-Q200-REV D-Test 13 MIL-STD-202 Method 213	100g's, Normal duration is 6ms, half sine shock pulse 正半弦波, 峰值加速度 100g's, 脉冲持续 6ms, 三轴六向各 3 次。	$\Delta R \leq \pm 1\%$
Solderability 可焊性	AEC-Q200-REV D-Test 18 J-STD-002	Dip the terminal in a flux and then dip into a soldering bath at 245±5°C for 3±0.5sec 沾助焊剂后浸入锡炉, 锡炉温度 245±5°C, 时间 3±0.5 秒。	> 95% area covered > 95%面积上锡

功率衰减曲线 (Derating Curve)

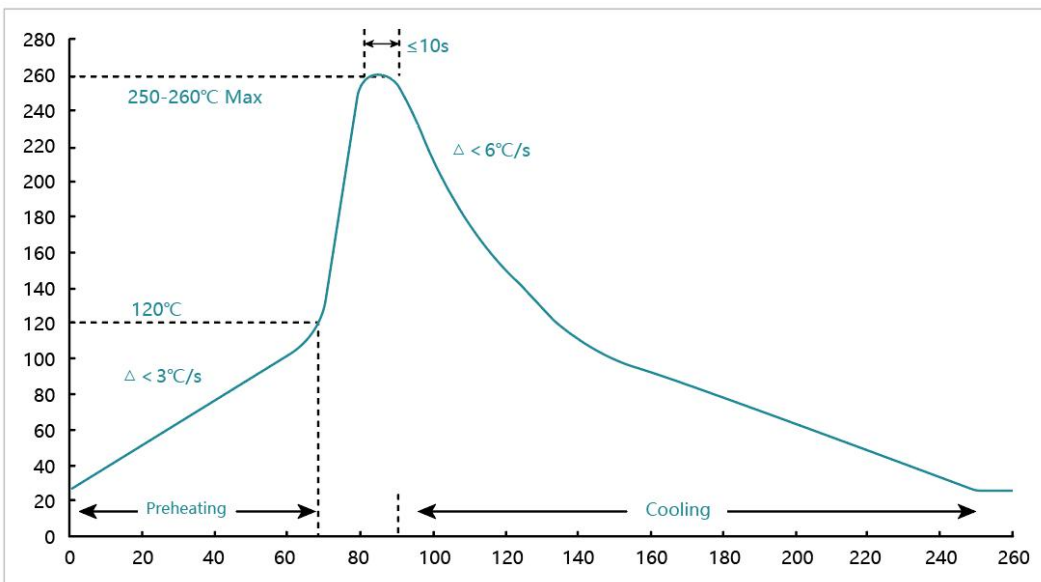


■ 焊接 (soldering)

- 建议回流焊曲线 (Recommend reflow soldering profile)



- 建议波峰焊曲线 (Recommend wave soldering profile)



- 手工焊温度 (hand soldering temperature)

烙铁温度 $350 \pm 10^{\circ}\text{C}$ 3 秒之内, 避免烙铁接触电阻本体

The iron temperature is $350 \pm 10^{\circ}\text{C}$, hand soldering time less than 3S. Avoid solder iron tip direct touch the components body

■ 包装规格 (Tapping Specification)

散装, 袋装 1000pcs 或自定义

■ 合金电阻器使用说明 (Alloy Resistor Instructions for use)

本产品以下特殊环境下应用, 性能可能会受到影响:

(Application of the products in a special environment can deteriorate product performance) :

1. 高温;
High temperature
2. 有海风或腐蚀性气体, 包括氯气, 硫化氢, 氨气, 二氧化硫, 二氧化氮等;
Near the sea ,or corrosive gas, such as Cl_2 , H_2S , NH_3 , SO_2 and NO_2 etc;
3. 各种类型的液体, 包括水, 油, 化学品, 有机溶剂的使用;
Unverified liquids, such as water,oil,chenical or organic solvent;
4. 在用树脂或其他涂层材料密封产品的情况下使用;
Unverified resin or paint to cover products;
5. 焊接后使用不洁焊剂或使用水或水溶性清洁剂清洗产品
Products should be washed with soluble cheaner even if non cleaning flux.

- 储存 / 搬运条件 (Storage / Carry conditions)

1. 储存温度 $25\pm 5^\circ\text{C}$ Temperature: $25\pm 5^\circ\text{C}$
2. 湿度 30~70%RH Humidity: 30~70%RH
3. 储存期限: 先进先出, 2 年 Storage life: 2years FIFO
4. 存放和搬运时, 请保持盒子的正确方向。严禁跌落在箱体上, 否则可能损坏产品电极或本体
Please hold box correct orientation when storing and carrying.It is strictly prohibited to fall on the box.
otherwise the product electrode or body may be damaged.



■ 修订履历 (Revision History)

[illegible]