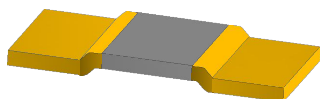


FSHY 佛山好运



分流贴片电阻

● 特征 Features



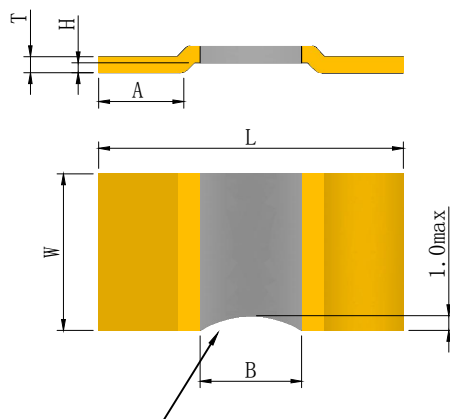
- 精度±5%和±2%，±1% Tolerance ±5% and ±2%，±1%
- 温度系数±20ppm/°C和±50ppm/°C ±75ppm/°C TCR down to ±20ppm/°C and ±50ppm/°C ±75ppm/°C
- 电子束焊接结构 Electron-beam welding
- 耐高温 Sustain high temperature
- 电感小于10纳亨 Low inductance
- 符合ROHS要求 Lead-free
- 阻值低至0.0002欧 Resistance values down to 0.0002ohms
- 特殊规格可以订做 Special tolerance is available on request

● 品名构成 Type Designation

| | | | | | |
|--------------------|---|----------------------|---------------------------------|---------------------------------------|--|
| HYR | M | 2512 | R001 | F | T |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 品名 Product Code | 材料代号 Material | 型号代号 Type Code | 电阻值代号 Resistance Value Code | 阻值误差精度代号 Resistance Tolerance Code | 包装方式代号 Packing Style Code |
| | M : Manganin K : Kamar F : FeCrAl | 2512 3920 5930 | 0M20=0.20mΩ R001=0.001Ω { | F : ±1% G : ±2% J : ±5% | T : 编带包装 Tape & Reel C : 塑料袋散装 Case |

● 尺寸 Dimensions Data

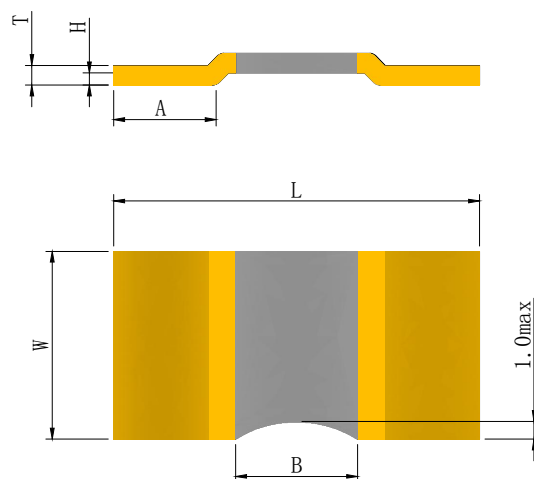
| 产品代号 | 型号 | 功率/W | B/mm | W/mm | L/mm | A/mm | H/mm |
|----------------|------|------|---------|----------|---------|---------|---------|
| HYR-M/F-2512 | 2512 | 3 | 3.0±0.3 | 3.2±0.25 | 6.4±0.2 | 1.2±0.2 | 0.5±0.1 |
| HYR-M/K/F-3920 | 3920 | 5 | 4.5±0.3 | 5.2±0.3 | 10±0.2 | 2.0±0.2 | 0.5±0.1 |
| HYR-M/K/F-5930 | 5930 | 7 | 5.0±0.3 | 7.7±0.3 | 15±0.2 | 4.2±0.2 | 0.5±0.1 |



注：侧边圆弧为修阻工艺缺口

● 阻值Resistance Data

| 产品代号 | 阻值/mΩ | T/mm |
|------------|-------|----------|
| HYR-M-2512 | 0.3 | 0.95±0.1 |
| | 0.35 | 0.6±0.1 |
| | 0.4 | 0.88±0.1 |
| | 0.5 | 0.85±0.1 |
| | 0.7 | 0.6±0.1 |
| HYR-F-2512 | 1 | 0.42±0.1 |
| | 2 | 0.67±0.1 |
| | 3 | 0.45±0.1 |
| | 4 | 0.32±0.1 |
| HYR-M-3920 | 5 | 0.32±0.1 |
| | 0.2 | 1.66±0.1 |
| | 0.3 | 1.28±0.1 |
| | 0.5 | 0.77±0.1 |
| | 0.7 | 0.55±0.1 |
| HYR-F-3920 | 1 | 0.43±0.1 |
| | 1 | 1.25±0.1 |
| | 2 | 0.62±0.1 |
| | 3 | 0.42±0.1 |
| | 4 | 0.35±0.1 |
| HYR-K-3920 | 5 | 0.28±0.1 |
| | 3 | 0.43±0.1 |
| HYR-M-5930 | 0.2 | 1.5±0.1 |
| | 0.3 | 0.96±0.1 |
| | 0.4 | 0.72±0.1 |
| | 0.5 | 0.58±0.1 |
| | 0.75 | 0.39±0.1 |
| | 0.8 | 0.36±0.1 |
| HYR-F-5930 | 1 | 0.94±0.1 |
| | 2 | 0.48±0.1 |
| | 3 | 0.31±0.1 |
| HYR-K-5930 | 2 | 0.43±0.1 |



注：侧边圆弧为修阻工艺缺口

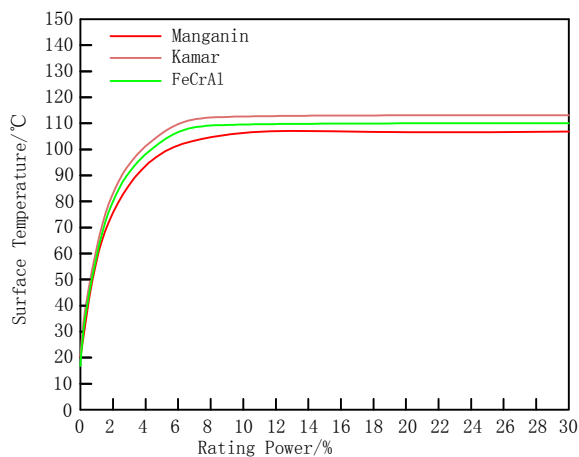
● 特性 Characteristics

| 项目 Item | 标准 Specifications | 测试方法 Test Methods |
|------------------------------|--|---|
| 可焊性 Solderability | 可焊面积≥95% 95% Cover Min | IEC 60115-1 4.17 245℃±5℃锡槽，保持3s±0.3s Lead-free solder bath at 245℃±5℃ for 3s±0.3s |
| 电阻温度系数 T.C.R | 在规定值内 Within specified T.C.R | IEC 60115-1 4.8 20℃-120℃ |
| 短时过负载 Short time overload | 无可见损伤 No mechanical damage ΔR≤±1.0%R | IEC 60115-1 4.13 4倍额定功率，保持5秒 Rated power×4 for 5 seconds |

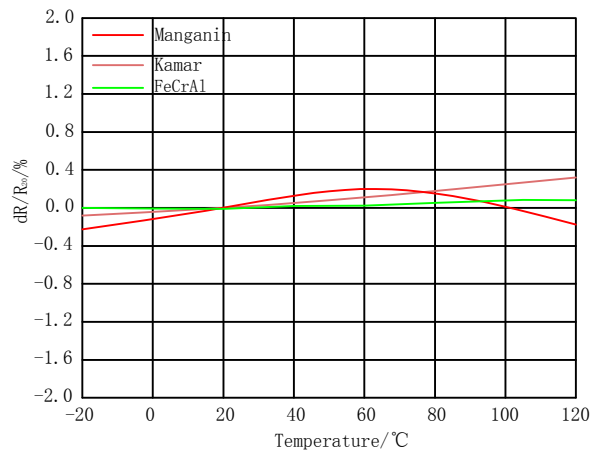
| 项目 Item | 标准 Specifications | 测试方法 Test Methods |
|--|---|---|
| 耐焊接热 Resistance to Soldering Heat | 无可见损伤 No mechanical damage $\Delta R \leq \pm 1.0\%R$ | IEC 60115-1 4.18 260°C, 保持10s \pm 1s。 Lead-free solder bath at 260°C \pm 5°C for 10s \pm 1s. |
| 70°C耐久性 Endurance at 70°C | 无可见损伤 No mechanical damage $\Delta R \leq \pm 1.0\%R$ | IEC 60115-1 4.25.1 70°C \pm 2°C, 1000小时, 额定电流或元件极限电流(取较少者)通1.5小时/断0.5小时。 70°C \pm 2°C, 1000h, Rated current or limiting element current whichever is lower 1.5h ON/0.5h OFF |
| 高温高湿 Biased Humidity | 无可见损伤 No mechanical damage $\Delta R \leq \pm 1.0\%R$ | AEC-Q200 Test 7/MIL-STD-202 method 103 温度85°C, 湿度85%的条件下施加10%额定功率(电流)或元件极限电流(取较少值), 持续1000小时。 85°C/85%RH. 1000 hours, Apply 10% of operating power(current) or limiting element current whichever is lower. |
| 温度快速变化 Rapid Change of Temperature | 无可见损伤 No mechanical damage $\Delta R \leq \pm 1.0\%R$ | IEC 60115-1 4.19 -55°C(30分钟)~常温(5分钟)~125°C(30分钟)100循环 -55°C(30min)~normal temperature(5min)~125°C(30min)100cycles |
| 上限类别温度耐久性 Endurance at Upper Category Temperature | 无可见损伤 No mechanical damage $\Delta R \leq \pm 1.0\%R$ | IEC 60115-1 4.25.3 170°C \pm 2°C, 1000h |

● 电器性能 Electrical Features

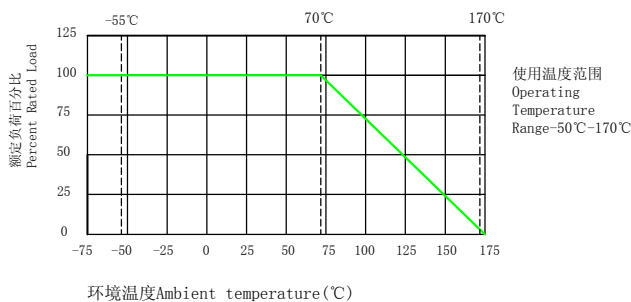
* 表面温度曲线 Surface Temperature Curve



* 温度系数曲线 TCR Derating Curve



* 负荷下降曲线 Derating Curve

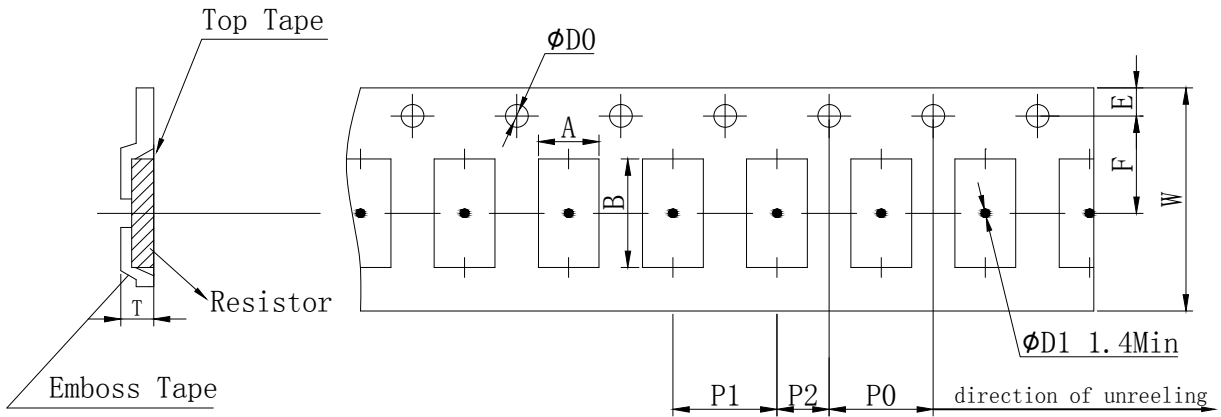


* 应用领域 Application

- 混合应用的电源电流传感器
Current sensor for power hybrid applications
- 变频器 Frequency converters
- 电流模块 Power modules
- 通信系统 Communication system
- 自动化控制电源 Automatic control power supply
- 汽车市场的高电流应用 High current applications for the automotive market

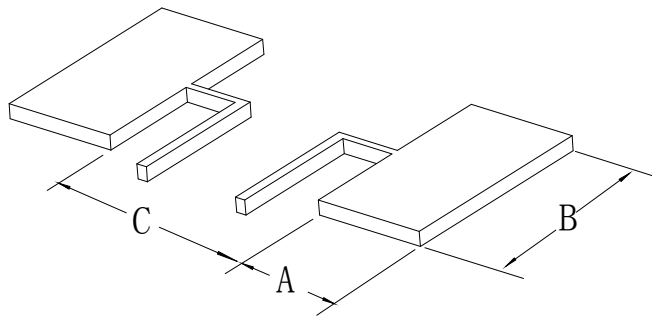
备注: 表面温度测试板采用铝基板 Note: Surface temperature rise test boards use aluminum substrate

• 编带包装 Tape and Reel



| Type | A | B | W | E | F | P0 | P1 | P2 | $\phi D0$ | T | Quantity (EA) |
|------|-----|------|----|------|------|----|----|----|-----------|-----|---------------|
| 2512 | 3.5 | 6.8 | 16 | 1.75 | 5.5 | 4 | 4 | 2 | 1.5 | 1.8 | 4000 |
| 3920 | 5.7 | 11.2 | 24 | 1.75 | 7.5 | 12 | 12 | 6 | 1.5 | 2.5 | 2000 |
| 5930 | 8.2 | 16.1 | 32 | 1.75 | 11.5 | 12 | 12 | 6 | 1.5 | 2.5 | 2000 |

• 推荐焊盘尺寸 Solder pad dimensions



| Type | A (mm) | B (mm) | C (mm) |
|------|----------------|-----------------|----------------|
| 2512 | 1.8 ± 0.25 | 3.6 ± 0.25 | 3.8 ± 0.25 |
| 3920 | 2.7 ± 0.25 | 6.2 ± 0.25 | 5.6 ± 0.25 |
| 5930 | 5.2 ± 0.25 | 8.75 ± 0.25 | 5.6 ± 0.25 |