

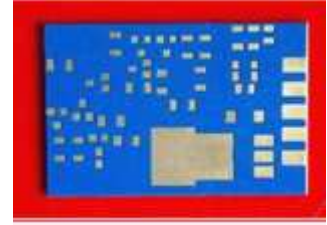


汽车电子点火器用厚膜电路产品说明书

HIC (modularization) for Automotor ignition hardware product explain

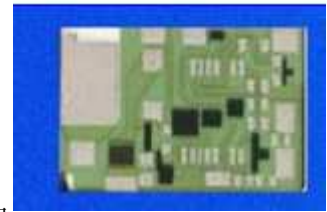
一、产品简介: Brief introduction

JTE 系列厚膜电路是本公司专门为各种汽车\摩托车点火器而设计的陶瓷厚膜电路板。该产品适用于各种汽车摩托车电子点火系统, 是理想的电子点火器控制模块用陶瓷电路板, 具有可靠性好、寿命长、使用稳定、方便安装焊接等突出优点。

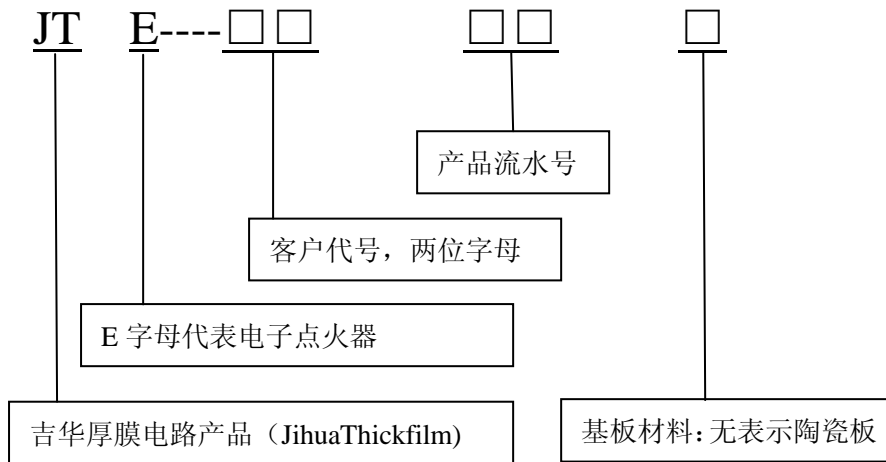


二、产品特点: Product trait

- 该系列产品具有性能可靠、输入输出特性稳定、高精度、低 TCR 等特点;
- 具有极佳的散热性能, 适合于汽/摩托车发动机点火系统使用, 可靠性高, 无机械磨损,;
- 产品使用寿命长、一致性好, 线路损耗小, 抗低电波干扰性强。
- 产品绝缘性极佳, 绝缘电阻大于 $1000M\Omega$ (100V/DC 1.0min);
- 可焊接和耐焊接性好, 适合于回流焊接等高速 SMT 贴片工艺;



三、定货方式 Order

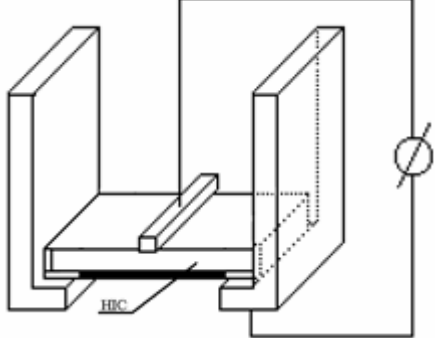


四、产品特性 Characteristics

- 1、工作温度范围: $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ Operation Temp.Range: $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
- 2、基片材料: 96%AL₂O₃ 陶瓷基片 Substrate material: 96%AL₂O₃ceramicsubstrate
- 3、导体材料: Ag/Pd, 导体附着力强, 进口导电材料。
Conductive material: Ag/Pd, with strong adhesion. high level material; Jihua High-tech Co., Ltd.
- 4、电阻体材料: 高性能导电材料, 耐磨性能好
Resistance material: high level conductive material, good abrasivity.
- 5、焊接能力: 阻值变化小于 0.5% (265℃焊锡炉, 浸入 10S, 检测阻值变化率)
Seal capability: resistance variational $\leq 0.5\%$ (immerge the 265℃soldering tin holding 10S, back-check resistance variational) force is 0.25±0.1N)



五、电气性能 Performance Specification

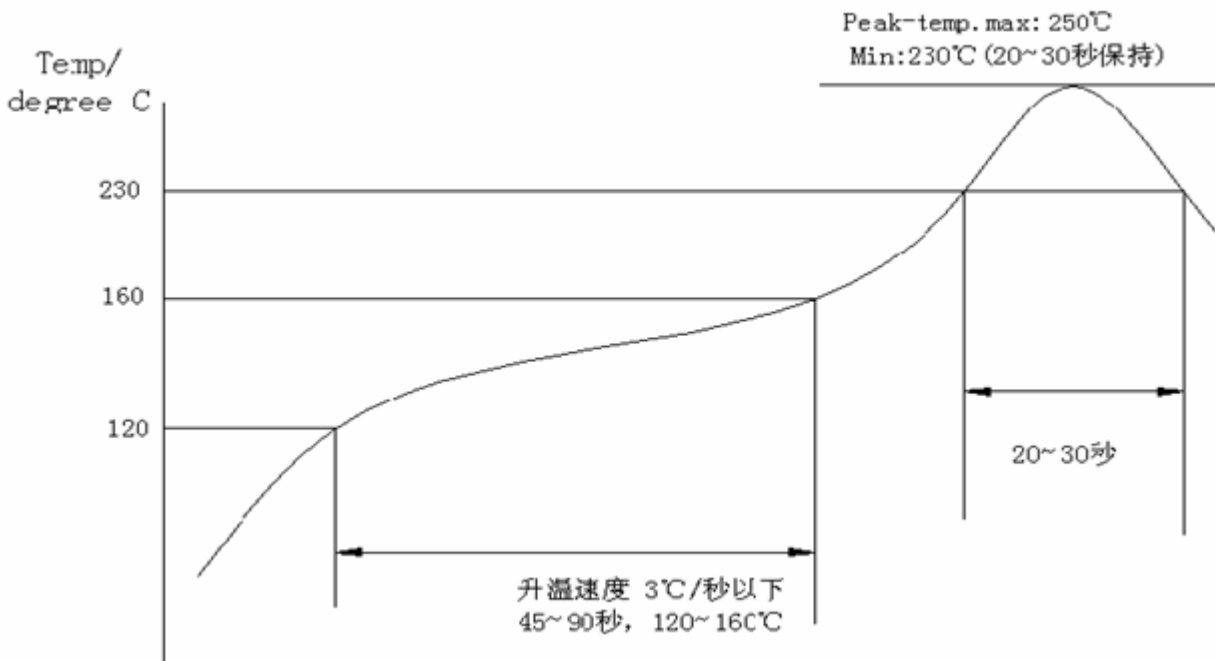
项目 Item	规格 specification	
电阻范围 (resistance range)	0.2Ω~20MΩ	
电阻公差 (tolerance for resistor)	±0.5% ±1.0% ±2.0% ±5.0% ±10.0% ±20.0%	
电阻温度系数 (resistance temperature coefficient)	0.2 Ω ≤ R < 10 Ω	±500PPM/°C
	1M Ω < R ≤ 20M Ω	
	10 Ω ≤ R ≤ 1M Ω	±250PPM/°C
绝缘电阻(insulation resistance)	1000MΩ	<p>在基片与电极间施加 100V 直流电压, 通电 1.0min 后测试绝缘电阻值。</p> 
可焊性 (solderability)	可焊接面积大于 95% ; The termination coverageshouldbe95% covermin	<p>将厚膜电路产品浸入非活性焊剂中浸渍大约 2S,然后去除多余焊剂,将产品浸入到焊料槽内深达 10mm,焊料槽温度为 240℃ ± 5℃,浸入时间为 2s ± 0.5s,用溶剂清洗掉电阻器上的焊剂残余物,后在 10 倍放大镜下观察。Resistor should be dipped in the melted solder bath at 240 °C ± 5 °C for 2s ± 0.5s. Flux should be removed from the surface of the termination with cleanorganic solvent.</p>
耐焊接热 Resistanceto Soldering Heat	<p>无可见损伤 Nomechanical damage. ΔR ≤ ±(1.0%R+0.05 Ω)</p>	<p>将元件浸入焊料槽内深达 10mm,焊料槽内温度为 270℃ ± 5℃,浸入时间 10s ± 1s,在室温放置 1~ 2 小时. 用溶剂将多余的焊剂清洗掉, 然后测量电阻值。Resistor should be dipped in the melted solder bath at 270 °C ± 5 °C for 10 s ± 1s, Flux should be removed from the surface of the termination with clean organic solvent., resistor should be exposed at room condition for one or two hours, then check the resistance value. room condition for one or two hours, then check the resistance value.</p>



温度快速变化 Rapid Temperature cycle	无可见损伤 Nomechanical damage. $\Delta R \leq \pm (1.0\%R + 0.05\Omega)$	-55℃±3℃ 30 分钟←常温 (2~3) 分钟→125℃±3℃ 30 分钟连续 5 个循环.元件在标准大气条件下恢复不少于 1 小时,也不多于 2 小时。 -55℃±3℃ for 30mins←normal temp. for (2~3mins → 125℃±3℃ for 30mins,total5 cycles.
稳态湿热 Steady State Humidity	无可见损伤 Nomechanical damage. $\Delta R \leq \pm (3.0\%R + 0.1\Omega)$	元件在温度为 40℃±2℃,湿度 90%~95%湿热试验箱内维持 1000 小时。 Resistor should be exposed at 40℃±2℃ and 90~95% relative humidity in a humidity test chamber or 1000 hours.
耐溶剂性 Resistant to Solvent	无可见损伤 Nomechanical damage.	溶解溶液:三氯乙烯,浸 10 小时±1 小时。Dipping in solvent solution of Isopropyl alcohol for 10h±1h.

六、推荐使用的焊接曲线 Recommended Soldering Profile

■ 推荐的回流焊曲线 Recommended re-flow profile



■ 推荐的焊膏类型 Recommended solder alloy: 96.5Sn-3.0Ag-0.5Cu

■ 贮存条件:温度 5℃~35℃,相对湿度 45%~70%.

Storage conditions:T: 5℃~35℃,RH: 45%~70%.

■ 避免存放于有腐蚀性气体的环境。

Avoiding storage in place full of corrosive gas.

七、相关产品 Other Applications

可根据用户实际要求进行订制设计、开发;

We can especially product for the client R&D, if the client has special requirements to the products.