

# SPECIFICATION FOR APPROVAL

## 技术规格确认书

客户名称 Customer	
产品类型 Product Model	NTC Sensor
规格型号 Part Number	MFT-001-502F3470A
文件编号 Specification file No.	QTS110325-2

客户 Customer
品保部 quality department:
制造部 manufacturing department:
工程部 engineering department:

This Specification indicates the parameters, electrical properties, test condition, structure and dimension of the NTC thermistors and Temperature sensors manufactured by QTS Electronic Co., LTD. It is sincerely for your confirmation.

Any doubt, please contact us in due course, or if you change the usage of the products, or if the operational environment changed evidently, please inform us.

本规格书具体描述了由本公司(深圳盛源芯电子)设计生产的温度传感器产品之规格型号, 参数性能, 电气性能, 试验条件, 结构尺寸等, 敬请贵公司确认。如对本规格书有任何疑问时, 请及时与我们取得联系, 修改并确认。

如贵公司在实际的使用过程中变更其使用用途, 作用方法或当使用环境发生明显变化时, 也请及时与我们取得联系。

## 1、APPLICATION : Thermal detection and control.

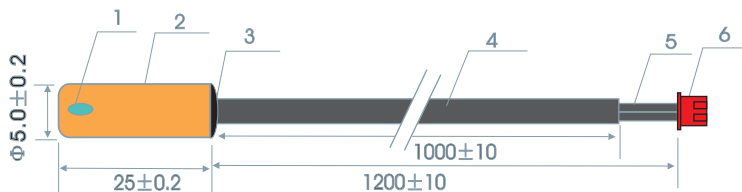
应用及功能： 温度测量与控制

## 2、PART NUMBER : MFT-001-502F3470A

产品规格型号

## 3、SIZE DRAWING , STRUCTURE AND MATERIAL. (unit:mm)

尺寸比例，结构成分



No: 序号	Name 名称	Material 材料规格	Qty. 数量	Remarks 备注
1	Element 元件	NTC Thermistor 热敏电阻	1	Mf5E
2	Probe 管壳	Cu Φ5*25	1	
3	Encapsulated 封装	Epoxy Resin 环氧树脂	1	Black 黑色
4	Tubing 管壳	PVC Φ4*1000		Black 黑色
5	Wiring 引线	UL2651-26AWG 2C wire	1	Black 黑色
6	Terminal 端子	PH-2Y	1	Red 红色

## 4、PARAMETER AND ELECTRICAL CHARACTERISTIC 参数及电气性能

Item 项目	Test Condition 测试条件	Symbol 符号	Performance 特征值	Unit 单位
4.1 Rated zero-power resistance 零功率电阻值	+25±0.05℃	R25℃	5±1%	kΩ
4.2 B value B值	+25±0.05℃、+50±0.05℃	B25/50	3470±1%	K
4.3 Time constant 热时间常数	In still air 静止空气中	τ	≤8	sec
4.4 Dissipation factor 耗散系数	In still air 静止空气中	δ	≥4	mW/℃
4.5 Voltage withstanding 耐电压	AC1500V (Peak value) / 3Sec 交流电1500v(峰值),1mA保持3秒	U	No destroy or spark 无击穿或飞弧	V
4.6 Insulation resistance 绝缘电阻	DC500V 直流电500V	Ri	≥100	MΩ
4.7 Max. Power 最大额定功率	Ambient Temp. +25℃	Pmax	≤0.1	mW
4.8 Operating temperature range 安全使用温度范围		TW	-30~+105	℃

## 5、RELIABILITY TEST 可靠性试验

Item 项目	Testing requirement 试验条件	Characteristic 特性	
5.1 High Temp. Storage 高温储存	+105℃ ± 3℃ in air, placed 16h +105℃ ± 3℃ 干燥空气中放置16小时	△ R25 △ B25/50	< 3% < 2%
5.2 Low Temp. Storage 低温储存	- 30℃ ± 3℃ in air, placed 2h - 30℃ ± 3℃ 干燥空气中放置2小时	△ R25 △ B25/50	< 3% < 2%
5.3 Heat & Humidity Stability 稳态湿热	Stay 240h at +40±2℃, 92%RH~98%RH +30±2℃, 92%RH~93%RH条件下放置240小时	△ R25 △ B25/50	< 3% < 2%
5.4 Thermal Shock 热冲击	- 30℃ × 30min $\xrightarrow[2\pm 1min]{Nor.Temp.}$ 105℃ × 30min / 5 Cycles 在-30℃空气中放置30分钟，室温放1~2分钟，再在105℃空气中放置30分钟，循环5次	△ R25 △ B25/50	< 3% < 2%

## 6、MECHANICAL CHARACTERISTICS 机械性能测试

Item 项目	Testing requirement 试验条件	Remarks
6.1 Vibration Test 振动试验	After Thermal Shock test, fixed the probe and lead wire, Amplitude:250m/10g, Frequency:60Hz, Time:2h. 温度快速变化试验后, 固定感温头及引线, 振幅: 250m/10g, 频率: 60Hz, 时间: 2h。	No visible damage. 无可见损伤 $\Delta R/R \leq \pm 2\%$
6.2 Pull test 引出端强度	Apply to the one terminal with 10N force for 10±1 sec. 固定感温头,另一端逐渐施加10N拉力, 持续10±1秒。	No visible damage. 无可见损伤 $\Delta R/R \leq \pm 2\%$
6.3 Natural falling Test 自然跌落	Fall off uprightly on the floor from 75cm high by 3 times. 将感温头从75cm高处垂直跌落到水磨石地面3次	
6.4 Lead wire bending test 引线弯折	From lead wire axis direction hang 100g load and bend wire 4 times 90° to the left and right. 将引线中心位置负重100克, 90度左右弯折4次。	

## 7、ATTENTION ON OPERATION 操作过程注意事项

7.1 It will bring extra heat and affect testing precision when the current pass through the sensor , With a view to it before selecting sensor.

要避免通过温度传感器的电流超过安全电流范围而引起元件自身发热, 从而导致测量误差。

7.2 Avoid excessive heat shock, which maybe cause the Resistance value shift. The hot air of blower should be at least 10mm to the probe in case heat shrink protection tube need to be attached.

当感温头处需加热缩套管时, 焊枪出风口应距离感温头至少大于10mm, 以避免高温对电阻本体的过度热冲击而导致阻值飘移。

## 8、R-Table FOLLOWING ENCLOSED 阻温特性表 - 随后附件

## 9、NOTICE 声明

Information contained herein is intended to provide a product description only, has been carefully reviewed and is believed to be accurate. However, QTS (Shenzhen) Electronics,inc., or anyone on its behalf, no responsibility or liability is assumed for any errors or inaccuracies.

QTS Electronics,inc. reserves the right to make changes without further notice to any product herein. And makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose. QTS Electronics, inc. assumes no any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages.

QTS Electronics,inc.does not convey any license under its patent rights nor the rights of others.

File Number 文件编号	Date 日期	Version 版本号	Content of Revision 修改内容	Editor 编制	Approval 批准
QTS110325 -2	2011-03-25		A	罗玉萍	李明珠