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SPECIFICATION FOR APPROVAL

CUSTOMER	
CERTIFIED MODEL/TYPE	TTC-104
PART NO.	TTC05104JSE507(RoHS+HF)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	Apr.28,2014
REV. NO.	
REV. DATE	
NET WEIGHT	

FOR CUSTOMER APPROVAL	CHECKED BY
	Haili Gong
	APPROVED BY
	Huaifang Zhang

REVISED RECORD SHEET

REV. NO	REV. DATE	REVISED CONTENT

INDEX

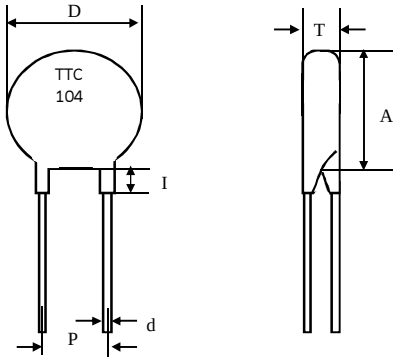
Part Number Code

Example :

TTC	05	104	J	S	E507
(1)	(2)	(3)	(4)	(5)	(6)

No.	Item	Digit	Specification
(1)	Product Type	TTC	Thinking NTC thermistor TTC type
(2)	Body Size	05	ϕ 5 mm
(3)	Zero Power Resistance at 25℃ (R_{25})	104	10 x 10^4 = 100KΩ
(4)	Tolerance of R_{25}	J	±5%
(5)	Appearance	S	Straight lead
(6)	Optional Suffix	E507	RoHS+HF compliance P:2.5±0.5mm Taping 12.7mm&Box

Structure and Dimensions



(unit : mm)

Body Size	D	P	d	A max.	T	I max.
ϕ 5mm	4~6.5	2.5±0.5	0.5±0.02	6.5	2.5~5	3

Electrical Characteristics

Part No.	Zero Power Resistance at 25℃	Tolerance of R_{25}	$B_{25/50}$ Value	Max. Power Dissipation at 25℃	Dissipation Factor	Thermal Time Constant	Operating Temperature Range
	R_{25}(KΩ)	(± %)	(K)	P_{max}(mW)	δ (mW/℃)	τ (sec.)	T_L~T_U(℃)
TTC05104JSE507	100	5	4400	450	Approx. 4.5	Approx. 20	-30 ~+125

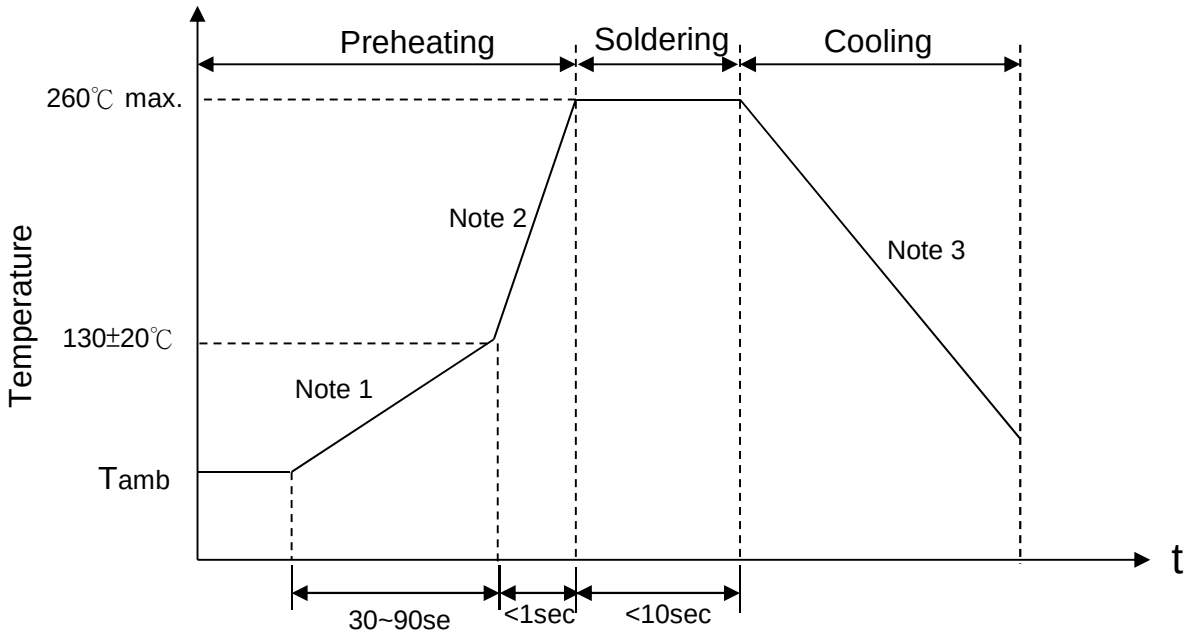
Reliability

Item	Standard	Test conditions / Methods	Specifications
Tensile Strength of Terminals	IEC60068-2-21	Gradually applying the force specified and keeping the unit fixed for 10±1 sec. Terminal diameter (mm) / Force (Kg) 0.3<d≦0.5 : 0.5 0.5<d≦0.8 : 1.0	No visible damage
Bending Strength of Terminals	IEC60068-2-21	Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, then return to the original position. Repeat the procedure in the opposite direction. Terminal diameter (mm) / Force (Kg) 0.3<d≦0.5 : 0.25 0.5<d≦0.8 : 0.50	No visible damage
Solderability	IEC60068-2-20	245 ± 3 ℃ , 3 ± 0.3 sec	Inspection shall be carried out with the assistance of a magnifier capable of giving a magnification of 4 x to 10 x . At least 95% of terminal electrode is covered by new solder. The dipped surface shall be covered with a smooth and bright solder coating with no more than small amounts of scattered imperfections such as pin-holes or un-wetted or de-wetted areas. These imperfections shall not be concentrated in one area.
Resistance to Soldering Heat	IEC60068-2-20	260 ± 3 ℃ , 10 ± 1 sec Distance from Thermistor : 6mm	No visible damage $\lvert \triangle R_{25}/R_{25} \rvert \leqq 3\ \%$
High Temperature Storage	IEC60068-2-2	125 ± 5 ℃ , 1000 ± 24 hrs	No visible damage $\lvert \triangle R_{25}/R_{25} \rvert \leqq 5\ \%$
Damp Heat, Steady State	IEC 60068-2-78	40 ± 2℃ , 9 0 ~ 95 % RH , 1000 ± 24 hrs	No visible damage $\lvert \triangle R_{25}/R_{25} \rvert \leqq 3\ \%$
Rapid Change of Temperature	IEC60068-2-14	The conditions shown below shall be repeated 5 cycles Step / Temperature (℃) / Period (minutes) 1 : -30 ± 5 : 30 ± 3 2 : Room temperature : 5 ± 3 3 : 125 ± 5 : 30 ± 3 4 : Room temperature : 5 ± 3	No visible damage $\lvert \triangle R_{25}/R_{25} \rvert \leqq 3\ \%$
Max. Power Dissipation	IEC60539-1 4.26.3	25 ± 5 ℃, Pmax. , 1000 ± 24 hrs	No visible damage $\lvert \triangle R_{25}/R_{25} \rvert \leqq 5\ \%$
Insulation test	MIL-STD-202F-Method 302	1000 V_{DC} 1 min	No visible damage ≧500 MΩ

Products have been tested at Thinking Electronic Industrial Co.,Ltd. Laboratory recognized by UL (Underwriters Laboratories Inc.) under CTDP (Client Test Data Program).

Soldering Recommendation

■ Wave Soldering Profile

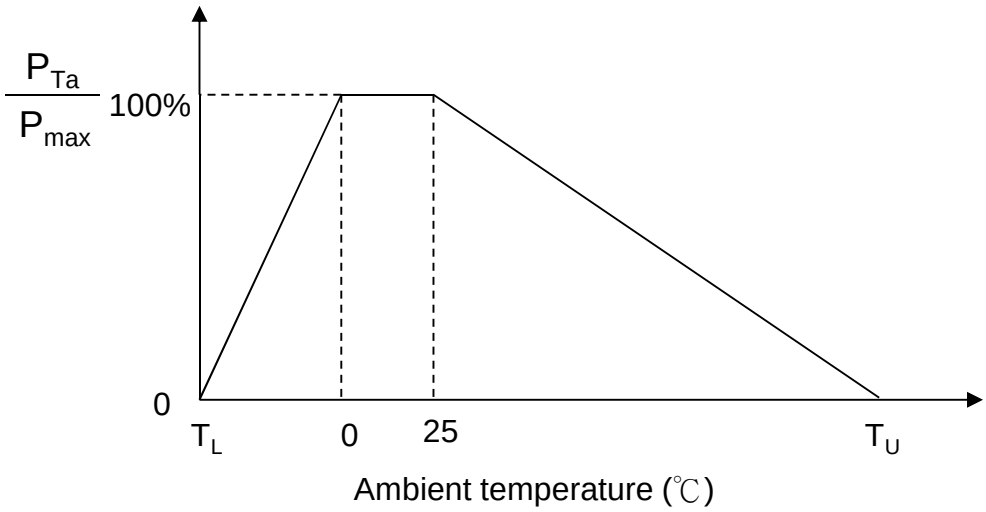


Note 1 : (1~3)℃/sec
Note 2 : Approx. 200℃/sec
Note 3 : 5℃/sec max

■ Recommended Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360℃ (max.)
Soldering Time	3 sec (max.)
Distance From Thermistor	2 mm (min.)

Max. Power Dissipation Derating Curve



Note: T_L = Minimum operating temperature (℃)

T_U = Maximum operating temperature (℃)

For example：

Ambient temperature(Ta)＝55℃

Maximum operating temperature(Tu)＝125℃

P_{Ta}=(Tu-Ta)/(Tu-25)×Pmax＝70% Pmax

RoHS Compliant Declaration

We hereby declare that the components delivered to your company are compliant with RoHS directive 2015/863/EU.

Warehouse Storage Conditions of Products

(I) Storage Conditions :

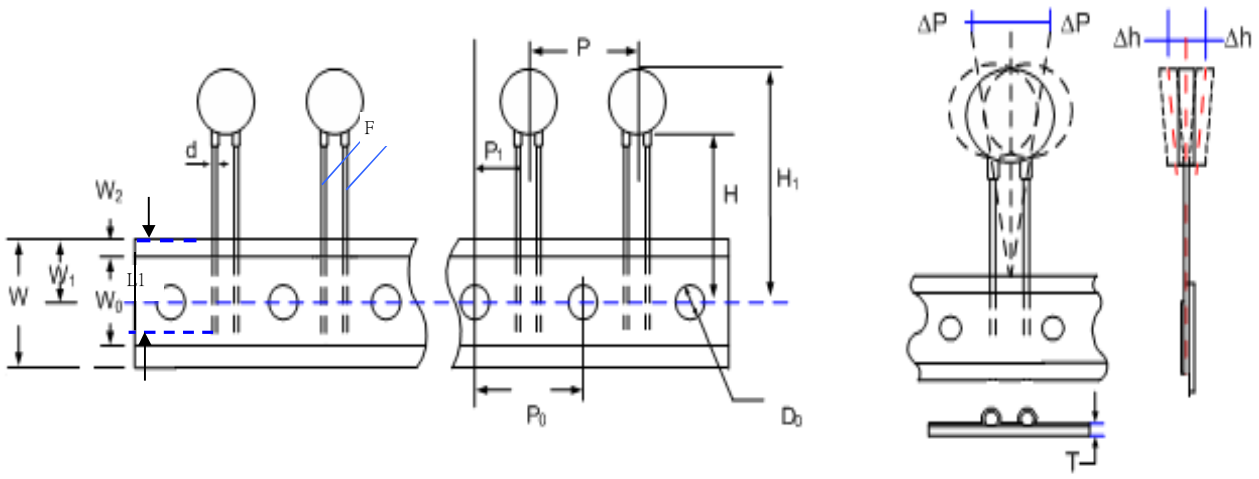
1.Storage Temperature : -10℃~+40℃

2.Relative Humidity : ≦75%RH

3.Keep away from corrosive atmosphere and sunlight.

(II) Period of Storage : 1 year

Taping and Dimensions

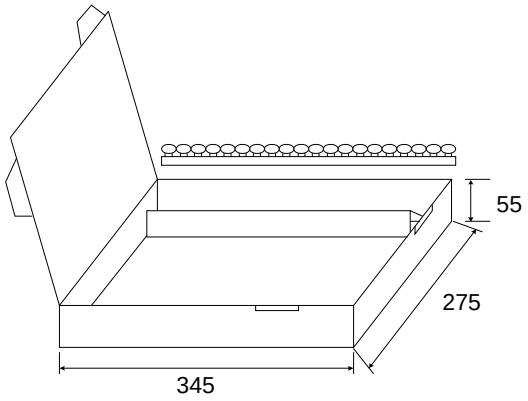


(unit : mm)

Item	P0	F	P	P1	H	H1	d	W0	W1	W2	W	△P	△h	L1	D0	T
	±0.3	±0.5	±1	±0.7	+2/-0	Max.	±0.02	±1.5	+0.75 /-0.5	Max.	+1/-0.5	Max.	Max.	Min.	±0.2	±0.2
	12.7	2.5	12.7	5.1	18	28	0.5	12	9	3	18	1	2	9	4	0.6

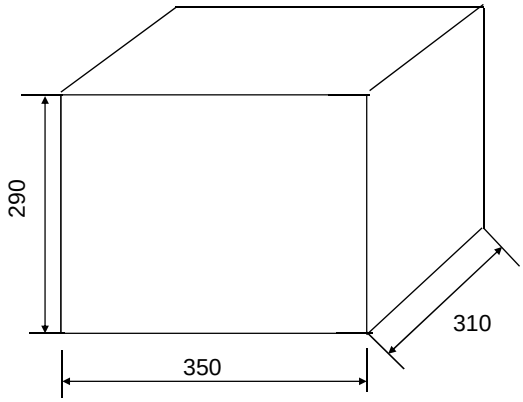
Standard Packing

(1) Quantity (2000pcs / box)



(Unit:mm)

(2) : Quantity (5 boxes /Carton)



(Unit:mm)

Safety Approvals **(Certified Model/Type : TTC-104)**

* UL 1434 / cUL recognized (File # E138827)

* CSA recognized (File # 97495)

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* TUV recognized (File # R 50050155)

*CQC GB/T 6663.1-2007 recognized (File # CQC05001011994)
* CQC GB6663-86 recognized (File # CQC05001011991)

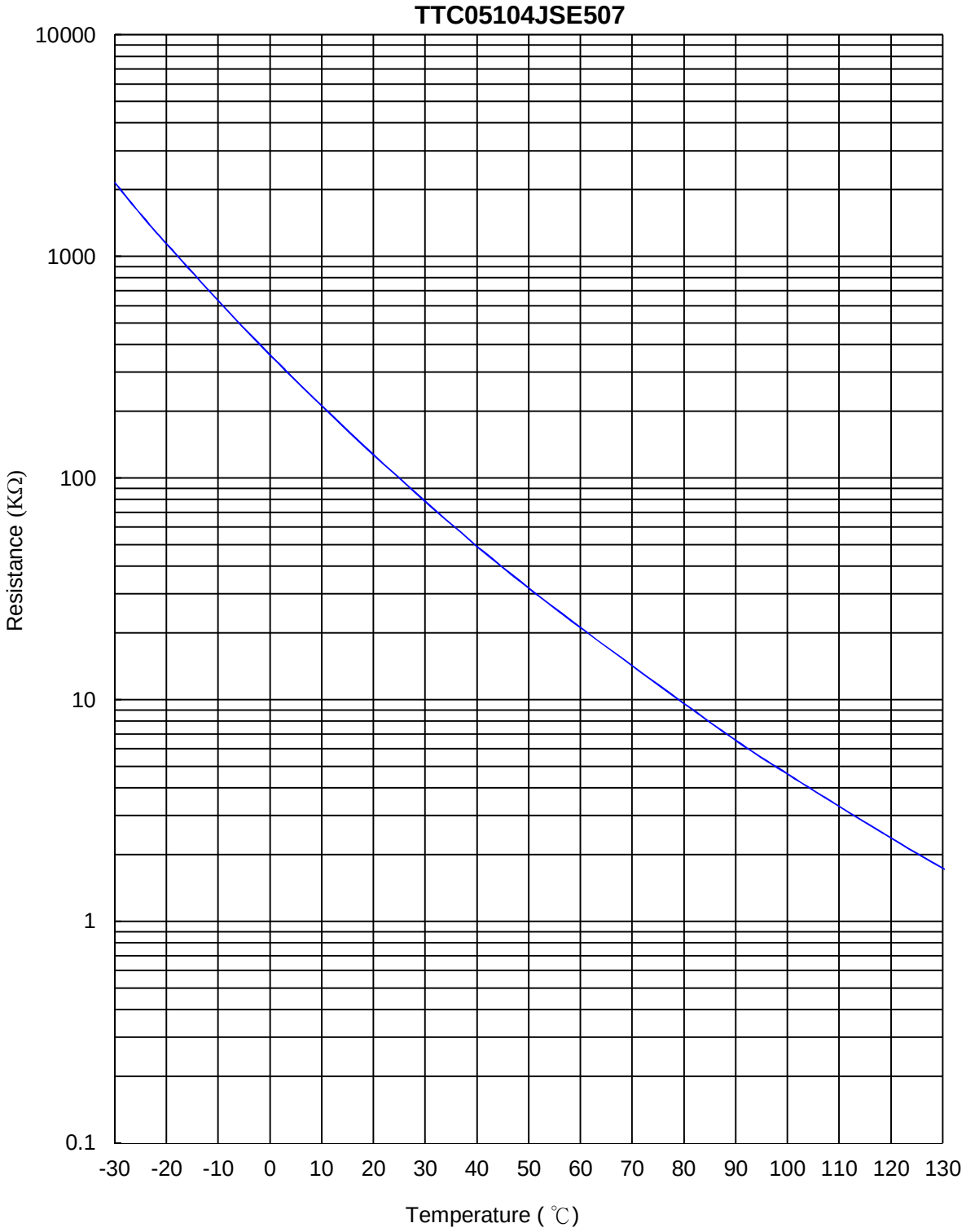
Certificates

(1) IATF 16949 certificate
(2) ISO 9001 certificate

Test Report

(1) RoHS test report
(2) Halogen-free test report

R-T Characteristic Curve



V-I Characteristic Curve (Ambient Ta=25℃)