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1. Scope

This product specification contains the test method, the general performance and property for 2.54mm pitch Header Connector series.

2. General items

2.1 Application

This specification applies to the 2.54mm pitch header connector series 2.2 Operating Temperature Range: -40°C ~ 125°C

2.3 Storage Temperature Range: -40~90 °C

2.4 Test Conditions:

Unless otherwise specified, the tests and measurements are to be carried out in the following standard conditions.

Temperature: 20°C±5°C

Relative Humidity: 25%~85%

Air pressure: 86~106 Kpa

3. Property


3.1 Materials

Item	Standard
Housing	High Temperature Thermoplastic , UL 94V-0
Contact	Copper Alloy

3.2 Ratings

Item	Standard
Current Rating	3 A AC/DC
Voltage Rating	30V AC
Ambient Temperature Range	-40°C ~ +125°C
Storage Temperature Range	-40°C ~ +90°C
Ambient Humidity Range	25%~85%

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DATE:	2015/8/17	DATE:	2015/8/17	DATE:	2015/8/17

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4. Appearance, construction and dimension:

4.1 Appearance

Each area must be finished well and there must be no rust, scratches, cracks and inferior or peeling plating, etc. that may be harmful in terms of product functioning.

4.2 Construction and dimensions

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.


5. Test Methods and Requirements:

5.1 Electrical Performance

Item	Test Item	Standard	Test Condition
5.1.1	Contact Resistance	EIA- 364-06C It should be tested in accordance to	20 mΩ max.(Initial) 30 mΩ max.(Final)
5.1.2	Insulation Resistance	EIA-364-21C Apply a voltage of DC 500V for 2 minutes between adjacent terminals and measure.	1000 MΩ min. Initial
5.1.3	Dielectric Withstanding Voltage	EIA-364-20C Apply a voltage of AC 500V for 60±5 s to between adjacent terminals.	No evidence of Breakdown and flashover nor leakage current exceeds 0.5mA.

5.2 Mechanical Performance:

5.2.1	Contact Retention force	Pull connectors at maximum rate of 25mm/minute..	700 grams min./per contact
5.2.2	Insertion force	Plug insert into socket shell be an alignment at a constant speed of 25mm/minute.	300gf Max per contact.
5.2.3	Withdrawal force	Plug pull out socket shell be an alignment at a constant speed of 25mm/minute	20gf Min per contact
5.2.4	Durability	EIA-364-09C The sample should be mounted in the tester and fully mated and unmated 50 cycles specified at rate of 25 mm/mini.	See note Contact resistance: 30 mΩ max. Final

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5.2.5	Vibration	EIA-364-28D Vibration frequency range:10-55-10Hz/min. Amplitude : 1.52mm Period : 2 hours for each direction X,Y,Z axis. (6 hours total)	See note Contact resistance: 30 mΩ max. Final No discontinuities of 1μs duration or longer
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5.3 Environmental Performance:

5.3.1	Humidity	EIA-364-31B Temperature : 40 ±2℃ Humidity : 90 ~ 95 % (RH) Period : 96 hours(measure should be made within 1hr after, water drops shall be removed)	See note Contact resistance: 30 mΩ max Final Insulation resistance: 100MΩ min Final
5.3.2	Thermal Shock	EIA-364-32C One cycle consists of : -40℃ for 30 minutes/+125℃ for 30 minutes. Times of cycle : 5 cycles.	See note Contact resistance: 30 mΩ max Final
5.3.3	Salt Spray	EIA-364-26A, Temperature : 35 ±2℃, Density 5% in weight. Period 24 ±1 hours(After the test, salt deposit shall be removed in running water)	See note Contact resistance: 30 mΩ max Final
5.3.4	Temperature Life	EIA-364-17B Expose a pair of mated connector to 125 ±2℃ for 250 hours	See Note Contact resistance: 30 mΩ max Final

5.4 Others

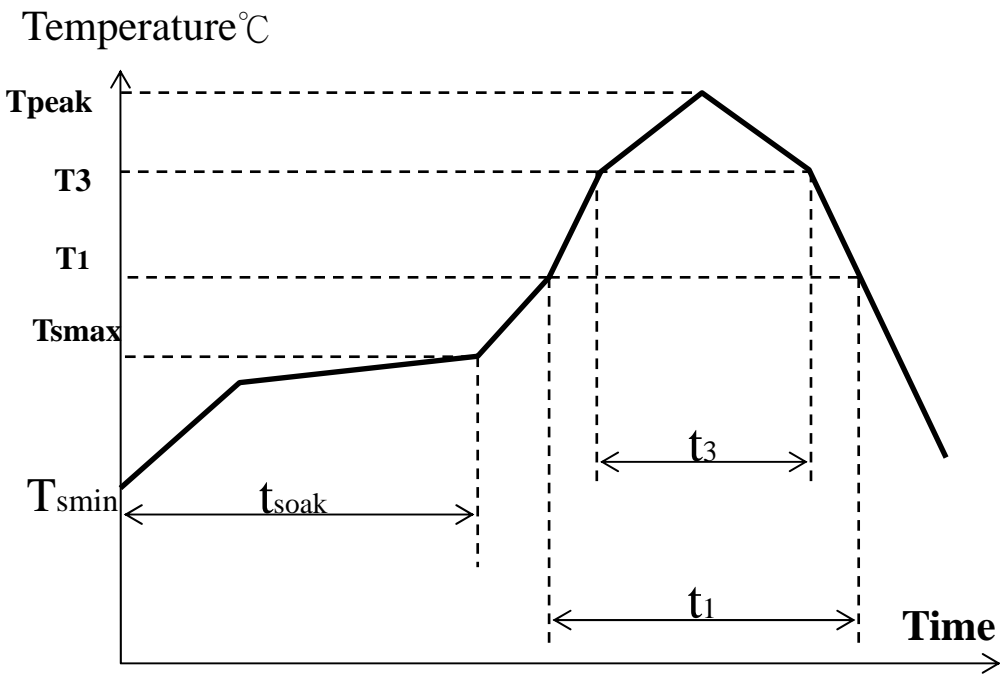
5.4.1	Solderability	EIA-364-52 Soldering temperature : 245 ±5℃ Immersing time : 4~5sec	More than 95% of immersed part shall be covered with solder.
5.4.2	Resistance to soldering heat	EIA-364-56C Soldering iron method: Solder temperature :380±10℃ Solder time: 3~5 sec, Reflow : please see recommended profile * The number of reflow is within 2 times.	See Note

NOTE : Shall meet visual requirements , show no physical damages.

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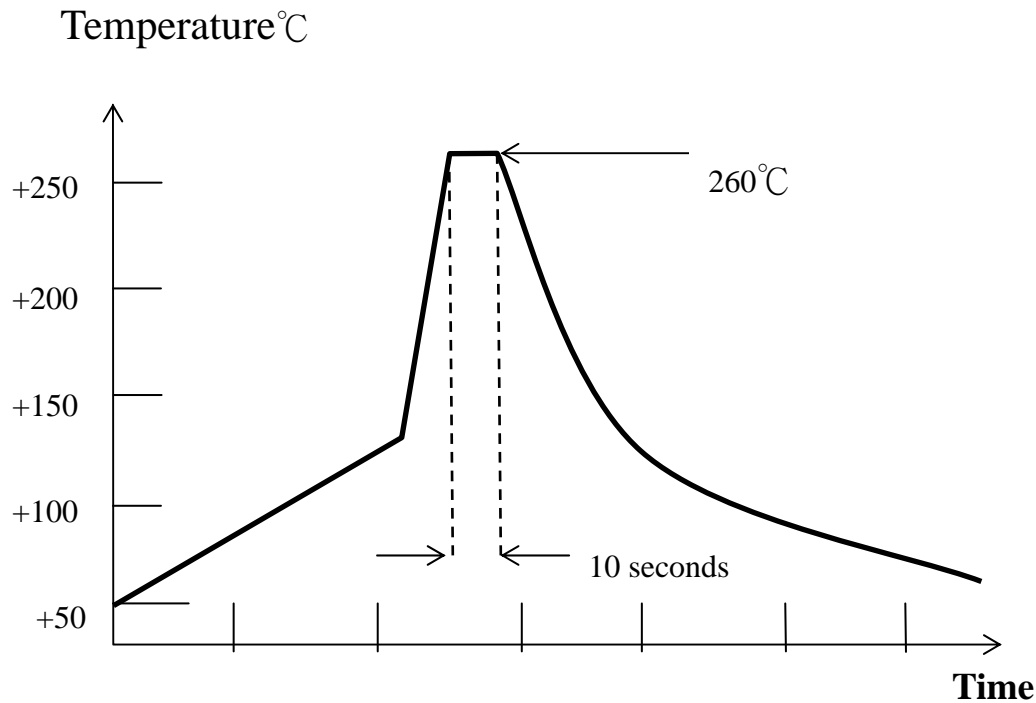
6. Profile for soldering heat resistance testing

Re-flow soldering profile for heat resistance testing		
Parameter	Mark	Major parts
Speed of temperature-raising		Not raise over 3℃ for each second
Temperature min Tsmin	Tsmin	150℃
Temperature min Tmax	Tsmax	200℃
Time of flux-moistening	t soak	2~3minutes
Time of temperature over 217℃	t 1	60~150seconds
Time in the highest temperature range	t 3	5~10 seconds
The highest temperature point	T peak	260(+0/-5℃)
Speed of temperature-decreasing		Not decrease over 6℃ for each second
Time from 25℃ to highest temperature		Not over 8 minutes



SMT TYPE Re-flow profile for soldering heat(Lead free)

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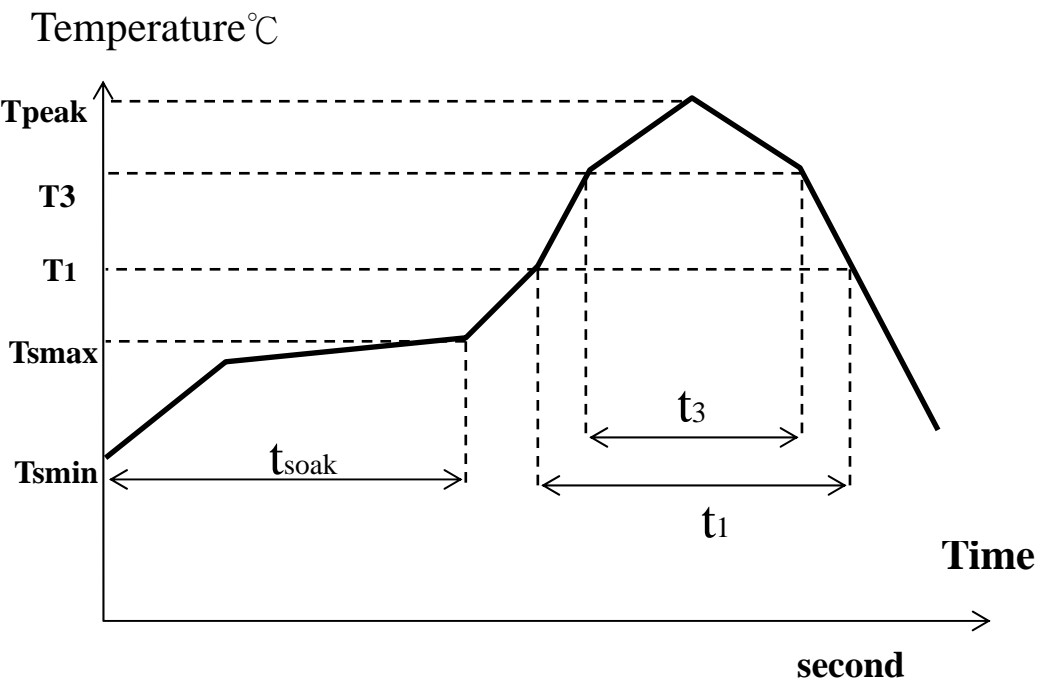


Dip TYPE Wave profile for soldering heat (Lead free)

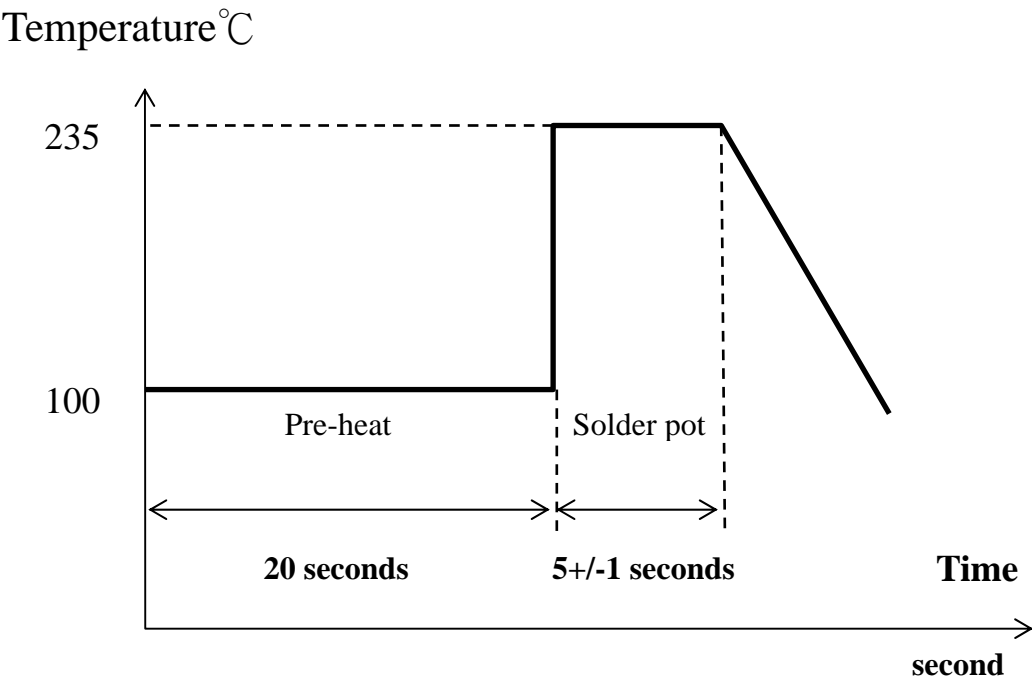
7. The following Profiles are the soldering condition (Reference) temperature for general manufacturing process.

Example of soldering condition		
Parameter	Mark	Major parts
Speed of temperature-raising		Not raise over 3℃ for each second
Time of flux-moistening	t soak	2~3minutes(150℃~200℃)
Time of temperature over 217℃	t 1	60~150seconds
Time in the highest temperature range	t 3	5~10 seconds
The highest temperature point	T peak	235(+0/-5℃)
Speed of temperature-decreasing		Not decrease over 6℃ for each second
Time from 25℃ to highest temperature		Not over 8 minutes


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Reflow profile for soldering heat resistance testing



Wave soldering profile

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8. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group									
	A	B	C	D	E	F	G	H	I	
	Test Sequence (a)									
Examination of Product	1	1	1,5	1	1,5	1,7	1,5	1,5	1,5	
Contact Resistance			2,4		2,4		2,4	2,4	2,4	
Insulation Resistance						2,6				
Dielectric Withstanding Voltage						3,5				
Contact Retention Force		2								
Insertion Force	2									
Withdrawal force	3									
Vibration									3	
Durability			3							
Solderability				2						
Soldering heat				3						
Humidity					3					
Thermal Shock						4				
Salt Spray							3			
Temperature Life								3		
Sample QTY	5	5	5	5	5	5	5	5	5	