SPECIFICATION

宏致電子股份有限公司

桃園縣中壢市東園路13號

No.13, Dongyuan Rd., Jhongli City,

Taoyuan County 320, Taiwan (R.O.C.)

TEL: +886-3-463-2808
FAX: +886-3-463-1800

SPEC. NO.: PS-60002-XXXXX-XXX **REVISION:** M

PRODUCT NAME: 2.54mm PITCH FEMALE HEADER. PIN HEADER

PRODUCT NO: 6000X,6001X,6002X,6003X,6004X,6005X,6006X,6007X
6008X,6009X,601XX,602XX,603XX,604XX,60XXX,86509 SERIES

PREPARED:	CHECKED:	APPROVED:
CHIANG HSUEH MIN	**TENG CHANG HO**	**KUO JUNG HSUN**
DATE: **2023.07.13**	DATE: **2023.07.13**	DATE: **2023.07.13**

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	ECN-1405150	NEW SPEC	ERIC	2014.5.09
A	ECN-1410009	ADD 6001X	ERIC	2014.10.13
B	ECN-1502175	ADD 6002X,6003X,6004X	ERIC	2015.02.12
C	ECN-1509237	ADD 6005X,6006X,6007X	ERIC	2015.06.30
D	ECN-1605176	ADD 6008X,6009X,601XX	DAVID	2016.05.10
E	ECN-1611306	ADD 86509 AND Change Current : 3 Amperes Max. (per pin)	TINA	2016.11.24
F	ECN-1705128	ADD 602XX	TINA	2017.05.05
G	ECN-1806311	ADD 603XX	LIAO WAN TING	2018.06.22
H	ECN-001047	ADD 604XX	LIAO WAN TING	2020.12.25
J	ECN-007490	ADD 60XXX SERIES AND Salt Spray 30u" gold for 48 hours	CHIANG HSUEH MIN	2022.05.16
K	ECN-008405	ADD Salt Spray 3u" gold for 8 hours	CHIANG HSUEH MIN	2022.06.15
L	ECN-010982	ADD Salt Spray 15u" gold for 48 hours	CHIANG HSUEH MIN	2023.02.07
M	ECN-012912	ADD Salt Spray 10u" gold for 48 hours	CHIANG HSUEH MIN	2023.07.13

2 SCOPE

This specification covers performance, tests and quality requirements for 2.54mm pitch Female Header, Pin Header connector.

3 APPLICABLE DOCUMENTS

EIA-364: ELECTRONICS INDUSTRIES ASSOCIATION

4 REQUIREMENTS

4.1 Design and Construction

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

4.2 Materials and Finish

4.2.1 Contact: Refer to the drawing
Finish: Refer to the drawing.
4.2.2 Housing: Refer to the drawing.

4.3 Ratings

4.3.1 Voltage: 30 Volts AC (per pin)
4.3.2 Current: 3 Amperes Max. (per pin)
4.3.3 Operating Temperature : -40℃ to +85℃

5 Performance

5.1. Test Requirements and Procedures Summary

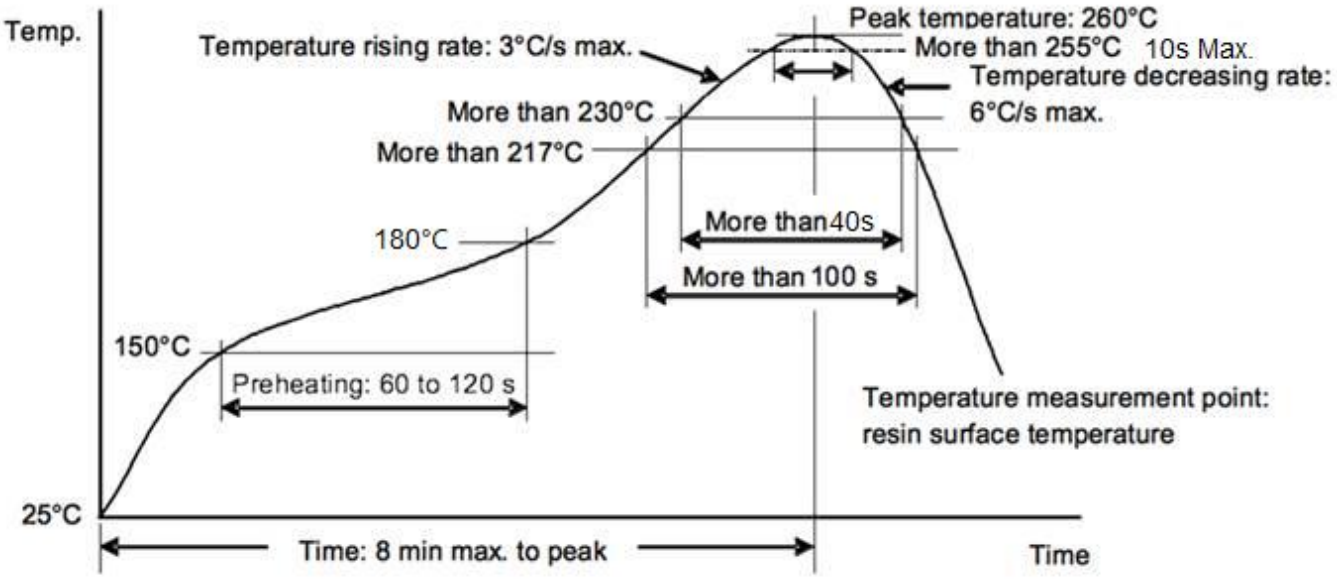
Item	Requirement	Standard
Examination of Product	Product shall meet requirements of applicable product drawing and specification.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Item	**Requirement**	**Standard**
Low Level Contact Resistance	30 m Ω Max.	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23)
Insulation Resistance	1000 M Ω Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Dielectric Withstanding Voltage	No discharge, flashover or breakdown. Current leakage: 5 mA max.	500 VAC Min. at sea level for 1 minute. Test between adjacent contacts of unmated connectors. (EIA-364-20)
Temperature Rise	30℃ Max. Change allowed	Mate connector: measure the temperature rise at rated current until temperature stable. The ambient condition is still air at 25℃ (EIA-364-70, METHOD1,CONDITION1)

MECHANICAL		
Item	**Requirement**	**Standard**
Durability	300 cycles	The sample should be mounted in the tester and fully mated and unmated the number of cycles specified at the rate of 25.4 ± 3mm/min. (EIA-364-09)
Mating / Unmating Forces	Mating Force: 300 gf Max./pin. Unmating Force: 20 gf Min./pin	Operation Speed： 25.4 ± 3 mm/minute.. Measure the force required to mate/unmate connector. (EIA-364-13)
Contact Retention Force (Before Reflow)	Pin Header: 300 gf Min. Female Header: 150 gf Min.	Operation Speed： 25.4 ± 3 mm/minute.. Measure the force required to mate/unmate connector. (EIA-364-13)

ENVIRONMENTAL		
Item	**Requirement**	**Standard**
Resistance to **Reflow** Soldering Heat	See Product Qualification and Test Sequence Group 8 **(Lead Free)**	Pre Heat：150℃~180℃, 60~120 sec. Heat：230℃ Min., 40 sec Min. Peak Temp.：260℃ Max, 10 sec Max.
Thermal Shock	See Product Qualification and Test Sequence Group 4	Mate module and subject to follow condition for 5 cycles. 1 cycles: -55 +0/-3 ℃, 30 minutes +85 +3/-0 ℃, 30 minutes (EIA-364-32, test condition I)
Humidity	See Product Qualification and Test Sequence Group 4	Mated Connector 40℃, 90~95% RH, 96 hours. (EIA-364-31,Condition A, Method II)
Temperature Life	See Product Qualification and Test Sequence Group 5	Subject mated connectors to temperature life at 85℃ for 96 hours. (EIA-364-17, Test condition A)
Salt Spray (Only For Gold Plating)	See Product Qualification and Test Sequence Group 6	Subject mated/unmated connectors to 5% salt-solution concentration, 35℃ Gold flash for 8 hours 3u" gold for 8 hours 10u" gold for 48 hours 15u" gold for 48 hours 30u" gold for 48 hours (EIA-364-26)
Solder ability	Tin plating: Solder able area shall have minimum of 95% solder coverage. Gold plating: Solder able area shall have minimum of 75% solder coverage	And then into solder bath, Temperature at 245 ±5℃, for 4-5 sec. (EIA-364-52)

6 INFRARED REFLOW CONDITION

TEMPERATURE CONDITION GRAPH
(TEMPERATURE ON BOARD PATTERN SIDE)



7 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group									
	1	2	3	4	5	6	7	8		
	Test Sequence									
Examination of Product				1、7	1、6	1、4		1		
Low Level Contact Resistance		1、5		2、10	2、9	2、5		3		
Insulation Resistance				3、9	3、8					
Dielectric Withstanding Voltage				4、8	4、7					
Temperature Rise	1									
Mating / Unmating Forces		2、4								
Durability		3								
Contact Retention Force (Before Reflow)			1							
Thermal Shock				5						
Humidity				6						
Temperature Life					5					
Salt Spray(Only For Gold Plating)						3				
Solder ability							1			
Resistance to Soldering Heat								2		
Sample Size	2	4	4	4	4	4	2	4		