



## SPECIFICATION

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SPEC. NO.: PS-60002-XXXXX-XXX REVISION: H

PRODUCT NAME: 2.54mm PITCH FEMALE HEADER. PIN HEADER

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

PREPARED:  <b>LIAO WAN TING</b>  DATE: <b>2020.12.25</b>	CHECKED:  <b>TENG CHANG HO</b>  DATE: <b>2020.12.25</b>	APPROVED:  <b>KUO JUNG HSUN</b>  DATE: <b>2020.12.25</b>
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Aces P/N: **60002 series**

TITLE: **2.54MM PITCH FEMALE HEADER, PIN HEADER CONNECTOR.**

RELEASE DATE: 2020.12.25

REVISION: H

ECN No: ECN-001047

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## 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

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## 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°C to +85°C](#)

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## 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.
<b>ELECTRICAL</b>		
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°C Max. Change allowed	Mate connector: measure the temperature rise at rated current until temperature stable. The ambient condition is still air at 25°C (EIA-364-70, METHOD1,CONDITION1)

<b>MECHANICAL</b>		
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)

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<b>ENVIRONMENTAL</b>		
<b>Item</b>	<b>Requirement</b>	<b>Standard</b>
Resistance to <b>Reflow</b> Soldering Heat	See Product Qualification and Test Sequence Group <b>8 (Lead Free)</b>	Pre Heat : 150°C~180°C, 60~120sec. Heat : 230°C Min., 40sec Min. Peak Temp. : 260°C Max, 10sec Max.
Thermal Shock	See Product Qualification and Test Sequence Group <b>4</b>	Mate module and subject to follow condition for 5 cycles. 1 cycles: -55 +0/-3 °C, 30 minutes +85 +3/-0 °C, 30 minutes (EIA-364-32, test condition I)
Humidity	See Product Qualification and Test Sequence Group <b>4</b>	Mated Connector 40°C, 90~95% RH, 96 hours. (EIA-364-31, Condition A, Method II)
Temperature Life	See Product Qualification and Test Sequence Group <b>5</b>	Subject mated connectors to temperature life at <b>85°C</b> for <b>96 hours</b> . (EIA-364-17, Test condition A)
Salt Spray (Only For Gold Plating)	See Product Qualification and Test Sequence Group <b>6</b>	Subject mated/unmated connectors to 5% salt-solution concentration, 35°C <b>Gold flash for 8 hours</b> (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 <b>245 ±5°C</b> , for <b>4-5 sec</b> . (EIA-364-52)

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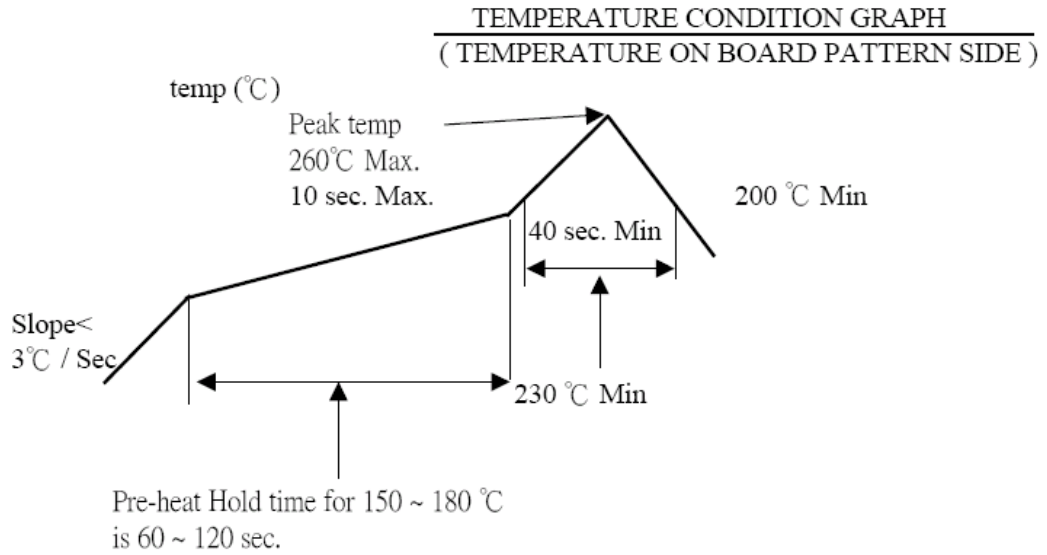
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## 6 INFRARED REFLOW CONDITION



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## 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		