



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., Zhongli City,

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

TEL: +886-3-463-2808

FAX: +886-3-463-1800

SPEC. NO.: PS-60004-XXXXX-XXX

REVISION: J

PRODUCT NAME: 2.0mm PITCH FEMALE HEADER. PIN HEADER

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

| | | |
|--|--|---|
| PREPARED: CHIANG HSUEH MIN DATE: 2022/07/21 | CHECKED: TENG CHANG HO DATE: 2022/07/21 | APPROVED: KUO JUNG HSUN DATE: 2022/07/21 |
|--|--|---|



TITLE: **2.0mm PITCH FEMALE HEADER, PIN HEADER CONNECTOR.**

RELEASE DATE: 2022.07.21

REVISION: J

ECN No: ECN-009180

PAGE: **2** OF **8**

| | | |
|---|--|---|
| 1 | REVISION HISTORY | 3 |
| 2 | SCOPE | 4 |
| 3 | APPLICABLE DOCUMENTS..... | 4 |
| 4 | REQUIREMENTS | 4 |
| 5 | PERFORMANCE | 5 |
| 6 | INFRARED REFLOW CONDITION | 7 |
| 7 | PRODUCT QUALIFICATION AND TEST SEQUENCE..... | 8 |

TITLE: **2.0mm PITCH FEMALE HEADER, PIN HEADER CONNECTOR.**

RELEASE DATE: 2022.07.21

REVISION: J

ECN No: ECN-009180

PAGE: **3** OF **8**

1 Revision History

| Rev. | ECN # | Revision Description | Prepared | Date |
|------|-------------|---|----------------|------------|
| O | ECN-1405364 | NEW SPEC | ERIC | 2014.5.20 |
| A | ECN-1409179 | ADD 6000X,6001X | ERIC | 2014.9.15 |
| B | ECN-1502210 | ADD 6002X,6004X | ERIC | 2015.2.13 |
| C | ECN-1503245 | Updated SPEC | ERIC | 2015.3.05 |
| D | ECN-1605176 | ADD 6005X,6006X,6007X,6008X,6009X,601XX | DAVID | 2016.05.10 |
| E | ECN-1611313 | Change Current : 2 Amperes Max. (per pin) | TINA | 2016.11.24 |
| F | ECN-1705150 | ADD 602XX | TINA | 2017.05.05 |
| G | ECN-1806271 | ADD 603XX | LIAO WAN TING | 2017.06.19 |
| H | ECN-001180 | ADD 604XX | LIAO WAN TING | 2020.12.25 |
| J | ECN-009180 | ADD 60XXX | CHIANGHSUEHMIN | 2022.07.21 |

TITLE: **2.0mm PITCH FEMALE HEADER, PIN HEADER CONNECTOR.**

RELEASE DATE: 2022.07.21

REVISION: J

ECN No: ECN-009180

PAGE: **4** OF **8**

2 SCOPE

This specification covers performance, tests and quality requirements for **2.0mm 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: **2 Amperes Max. (per pin)**

4.3.3 Operating Temperature : **-40°C to +85°C**

TITLE: **2.0mm PITCH FEMALE HEADER, PIN HEADER CONNECTOR.**

RELEASE DATE: 2022.07.21

REVISION: J

ECN No: ECN-009180

PAGE: **5** OF **8**

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°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) |

| 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 \pm 3mm/min. (EIA-364-09) |
| Mating / Unmating Forces | Mating Force: 350 gf Max./pin. Unmating Force: 20 gf Min./pin | Operation Speed : 25.4 \pm 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 \pm 3 mm/minute.. Measure the force required to mate/unmate connector. (EIA-364-13) |

TITLE: 2.0mm PITCH FEMALE HEADER, PIN HEADER CONNECTOR.

RELEASE DATE: 2022.07.21

REVISION: J

ECN No: ECN-009180

PAGE: **6** OF **8**

| ENVIRONMENTAL | | |
|---|--|---|
| Item | Requirement | Standard |
| Resistance to Reflow Soldering Heat | See Product Qualification and Test Sequence Group 8 (Lead Free) | Pre Heat : 150°C~180°C, 60~120sec. Heat : 230°C Min., 40sec Min. Peak Temp. : 260°CMax, 10sec 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 °C, 30 minutes +85 +3/-0 °C, 30 minutes (EIA-364-32, test condition I) |
| Humidity | See Product Qualification and Test Sequence Group 4 | 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 5 | Subject mated connectors to temperature life at 85°C 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°C Gold flash for 8 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°C , for 4-5 sec. (EIA-364-52) |

TITLE: **2.0mm PITCH FEMALE HEADER, PIN HEADER CONNECTOR.**

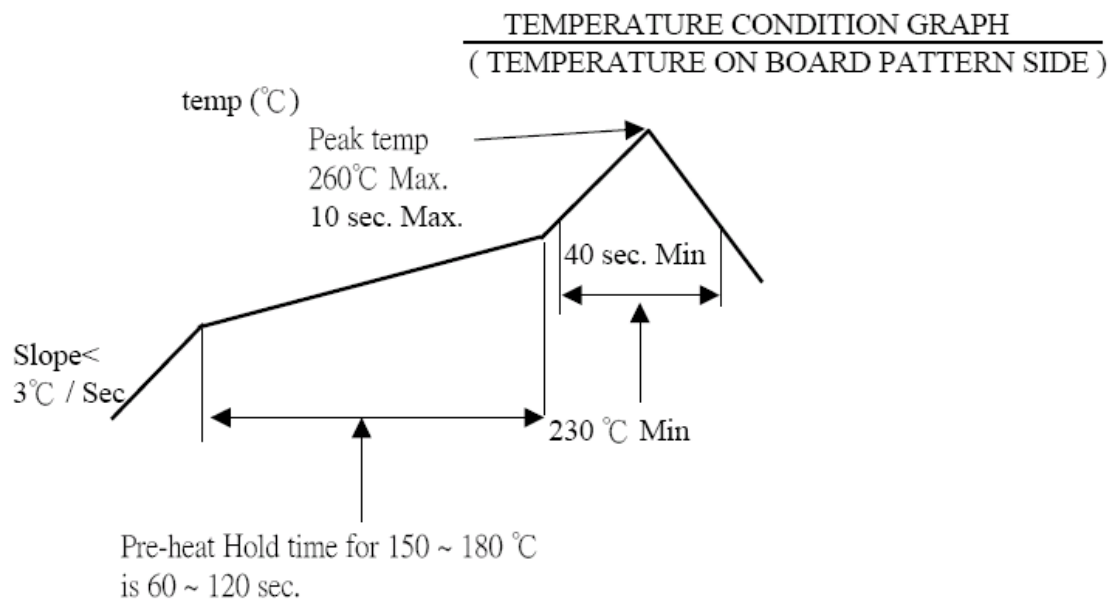
RELEASE DATE: 2022.07.21

REVISION: J

ECN No: ECN-009180

PAGE: **7** OF **8**

6 INFRARED REFLOW CONDITION



TITLE: **2.0mm PITCH FEMALE HEADER, PIN HEADER CONNECTOR.**

RELEASE DATE: 2022.07.21

REVISION: J

ECN No: ECN-009180

PAGE: **8** OF **8**

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 | | |