



SPECIFICATION

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SPEC. NO.: PS-31522-XXXXX-XXX

REVISION: A


PRODUCT NAME: RJ45 CONNECTOR

PRODUCT NO: 31522 SERIES

| | | |
|------------------------|----------------------|----------------------|
| PREPARED: | CHECKED: | APPROVED: |
| DENG JIAN XIANG | TENG CHANG HO | KUO JUNG HSUN |
| DATE: | DATE: | DATE: |
| 2019/07/10 | 2019/07/10 | 2019/07/10 |


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|  | Aces P/N: 31522 series |
| TITLE: RJ45 CONNECTOR | |
| RELEASE DATE: 2019.07.10 | REVISION: A ECN No: ECN-1907252 PAGE: 2 of 8 |

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

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|---|-------------|-------------------------------|---------------------|
|  | | Aces P/N: 31522 series | |
| TITLE: RJ45 CONNECTOR | | | |
| RELEASE DATE: 2019.07.10 | REVISION: A | ECN No: ECN-1907252 | PAGE: 3 of 8 |

1 Revision History

| Rev. | ECN # | Revision Description | Prepared | Date |
|------|-------------|----------------------|----------------|------------|
| A | ECN-1907252 | NEW SPEC | DENG JIANXIANG | 2019.07.10 |
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|  | | Aces P/N: 31522 series | |
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| RELEASE DATE: 2019.07.10 | REVISION: A | ECN No: ECN-1907252 | PAGE: 4 of 8 |

2 SCOPE

This specification covers performance, tests and quality requirements for RJ45 CONNECTOR

3 APPLICABLE DOCUMENTS

EIA-364: ELECTRONICS INDUSTRIES ASSOCIATION

4 REQUIREMENTS

4.1 Design and Construction


- 4.1.1 Product shall be of design, construction and physical dimensions specified on applicable product drawing.
- 4.1.2 All materials conform to RoHS and the standard depends on TQ-WI-140101.

4.2 Materials and Finish

- 4.2.1 TERMINAL: PHOSPHOR BRONZE
 - Finish: (a) Contact Area: Refer to the individual drawings.
 - (b) Under-plating: Refer to the individual drawings.
 - (c) Solder Area: Refer to the individual drawings.
- 4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0
Refer to the individual drawings.
- 4.2.3 Shell: Stainless Steel or Copper Alloy.
 - Finish: (a) Plating: Refer to the individual drawings.

4.3 Ratings

- 4.3.1 Voltage: 150 VAC MAX.
- 4.3.2 Current: 1.5 Amps. MAX.
- 4.3.3 Operating Temperature: -30°C to +70°C
- 4.3.4 Storage Temperature: -40°C to +85°C

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|---|---|
|  | Aces P/N: 31522 series |
| TITLE: RJ45 CONNECTOR | |
| RELEASE DATE: 2019.07.10 | REVISION: A ECN No: ECN-1907252 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 | 45mΩ Max. (initial) 50mΩ Max. (after test) | Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23) |
| Insulation Resistance | 500 MΩ Min. | Un-mate connectors, apply 500 VDC between adjacent terminals and between terminals to ground. (EIA-364-21) |
| Dielectric Withstanding Voltage | No discharge, flashover or breakdown. Current leakage: 1.5mA Max. | Un-mate connectors, apply 500V AC at sea level for 1 minute between adjacent terminals and between terminals to ground. (EIA-364-20) |

MECHANICAL


| Item | Requirement | Standard |
|---|---|---|
| Durability (Locking device inoperative) | 5000 cycles Contact Resistance: 45mΩ Max. (initial) 50mΩ Max. (after test) | 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 / Un-mating Forces (test with RJ45 plug latch depressed) | Mating Force: 22N Max. Un-mating Force: 44N Max | Operation Speed : 25.4±3 mm per minute. Measure the force required to mate/un-mate connector. (EIA-364-13) |

ENVIRONMENTAL

| Item | Requirement | Standard |
|-------------------------------------|---|--|
| Resistance to Reflow Soldering Heat | No damage or deformation. Contact Resistance: 45mΩ Max. (initial) 50mΩ Max. (after test) | Pre Heat: 150°C~180°C, 60~120sec. Heat: 230°C Min., 40sec Min. Peak Temperature: 260°C Max, 10sec Max. |

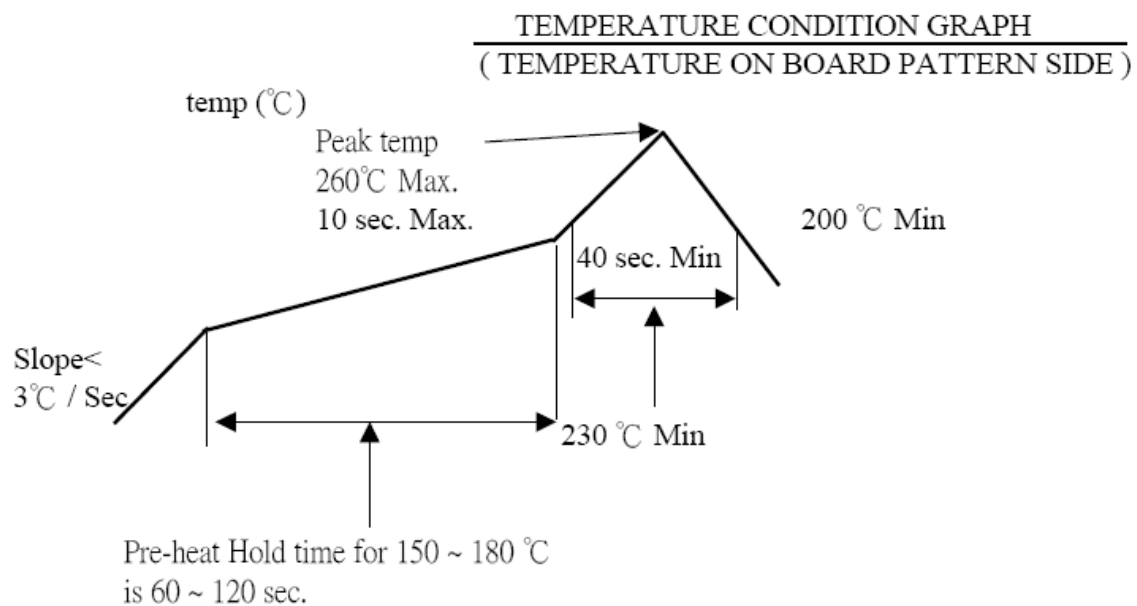
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| RELEASE DATE: 2019.07.10 | REVISION: A ECN No: ECN-1907252 PAGE: 6 of 8 |


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| Thermal Shock | See Product Qualification and Test Sequence Group 2 | 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 2 | Mated Connector 40±2°C, 90~95% RH, 96 hours. (EIA-364-31, Condition A, Method II) |
| Temperature Life | See Product Qualification and Test Sequence Group 3 | Subject mated connectors to temperature life at 85±2°C for 96 hours. (EIA-364-17, Test condition A) |
| Cold Resistance | See Product Qualification and Test Sequence Group 4 | Subject mated connectors to temperature life at -40±2°C for 96 hours. (EIA-364-59) |
| Vibration | 1 µs Max. | The electrical load condition shall be 100 mA maximum for all contacts. Subject to a simple harmonic motion having amplitude of 0.76mm (1.52mm maximum total excursion) in frequency between the limits of 10 and 55 Hz. The entire frequency range, from 10 to 55 Hz and return to 10 Hz, shall be traversed in approximately 1 minute. This motion shall be applied for 2 hours in each of three mutually perpendicular directions. (EIA-364-28 Condition I) |
| Salt Spray | No damage. Contact Resistance: 45mΩ Max. (initial) 50mΩ Max. (after test) | Subject mated/unmated connectors to 5±0.5% salt-solution concentration, 35+2°C for 24 hours (EIA-364-26) |
| Solderability | Solderable area shall have minimum of 95% solder coverage. | Immerse terminal tail into solder bath, and temperature at 245±3°C, for 2±0.5 second. (EIA-364-52) |

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| RELEASE DATE: 2019.07.10 | REVISION: A ECN No: ECN-1907252 PAGE: 7 of 8 |

6 RECOMMENDED SOLDERING CONDITION

➤ IR Reflow Soldering Process:



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|---|--|
|  | Aces P/N: 31522 series |
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| RELEASE DATE: 2019.07.10 | REVISION: A ECN No: ECN-1907252 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、6 | 1、6 | 1、5 | 1、5 | 1、4 | 1、4 | 1、3 | 1、4 | | |
| Low Level Contact Resistance | 2、7 | | | | 2、5 | 2、5 | | 2、5 | | |
| Insulation Resistance | | 2、7 | 2、6 | 2、6 | | | | | | |
| Dielectric Withstanding Voltage | | 3、8 | 3、7 | 3、7 | | | | | | |
| Mating / Un-mating Forces | 3、5 | | | | | | | | | |
| Durability (Locking device inoperative) | 4 | | | | | | | | | |
| Thermal Shock | | 4 | | | | | | | | |
| Humidity | | 5 | | | | | | | | |
| Temperature Life | | | 4 | | | | | | | |
| Cold Resistance | | | | 4 | | | | | | |
| Vibration | | | | | 3 | | | | | |
| Salt Spray | | | | | | 3 | | | | |
| Solderability | | | | | | | 2 | | | |
| Resistance to Reflow Soldering Heat | | | | | | | | 3 | | |
| Sample Size | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | | |