



SPECIFICATION

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SPEC. NO.: PS-31540-XXXXX-XXX

REVISION: A

PRODUCT NAME: RJ45 CONNECTOR

PRODUCT NO: 31540 SERIES

PREPARED: DENG JIAN XIANG DATE: 2019/09/24	CHECKED: TENG CHANG HO DATE: 2019/09/24	APPROVED: KUO JUNG HSUN DATE: 2019/09/24
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Aces P/N: **31540 series**

TITLE: **RJ45 CONNECTOR**


RELEASE DATE: 2019.09.24

REVISION: A

ECN No: **ECN-1909390**


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1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
A	ECN-1909390	NEW SPEC	DENGJIANXIANG	2019.09.24

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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., UL 94 V-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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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., 100mAMax. (EIA-364-23)
Insulation Resistance	500 MΩ Min.	Un-mate connectors, apply 500VDC 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 500VAC 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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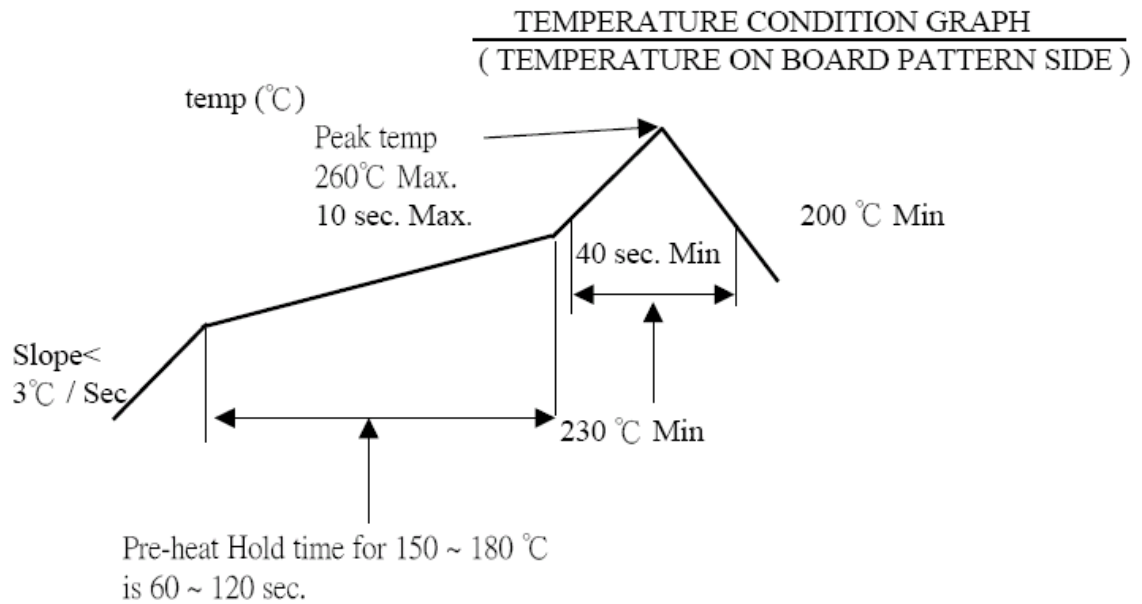
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Thermal Shock	See Product Qualification and Test Sequence Group 2	Mate module and subject to follow condition for 5 cycles. 1 cycles: -55 +0/-3 °C, 30 minutes +85 +3/-0 °C, 30 minutes (EIA-364-32, Test condition I)
Humidity	See Product Qualification 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)

6 RECOMMENDED SOLDERING CONDITION

➤ IR Reflow Soldering Process:





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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 ∨ 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		