SPEC. NO.: PS-30864-XXXXXXXXX-XXX **REVISION:** 1

PRODUCT NAME: 1.02mm Pitch RJ45+USB 3.0x2 Jack Conn.T/H R/A

10G tap up type

PRODUCT NO: 30864 SERIES

PREPARED:	CHECKED:	APPROVED:
DATE: 2017/05/18	DATE: 2017/05/18	DATE: 2017/05/18

1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
1	ECN-1705058	NEW SPEC	XIAOGUANG	2017/05/02

2 SCOPE

This product specification covers performance, tests and quality requirements for RJ45 with/without LED. When tests are performed on subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable product drawing.

3 APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of the specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

3.1. APPLICABLE DOCUMENTS AND SPECIFICATIONS

EIA-364：ELECTRONICS INDUSTRIES ASSOCIATION

4 REQUIREMENTS

4.1. Standard atmospheric condition:

Unless otherwise specified, the standard range of atmospheric condition for marking, measurement and tests is as follows:

Ambient temperature: 15℃ to 35℃
Relative humidity: 63% to 67%
Air pressure: 86 kpa to 106 kpa

4.2. Temperature:

Operating temperature: 0℃ to 70℃
Storage temperature: -40℃ to 85℃

4.3. Ratings

4.3.1 Voltage: 3.3 volts DC for signal pairs, 2.2 volts DC for LED signals.
4.3.2 Current:

- 0.1 ampere maximum per contact for signal pins.
- 0.02 ampere maximum for LEDs in forward direction.
- 1.5 ampere maximum per contact, host board connector.

4.4. Dimension

See applicable product drawing

4.5. Material, plating and markings

See applicable product drawing

5 Performance and Test Description

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Future 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per EIA-364

5.1. Appearance requirements

Item	Requirement	Standard
Examination of Product	Product shall meet requirements of applicable product drawing and specification.	Visual, dimensional and functional per applicablequality inspection plan. **(EIA-364-18B)**
ELECTRICAL		
Low Level Contact Resistance	ΔR = ｜R_{final} - $R_{initial}$｜≦ 60 mΩ 30 mΩmaxi for each contact pin. 60 mΩmaxi for each signal pairs,	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. Such as output side of RJ45 (1-2,3-6,4-5,7-8). **(EIA-364-23 B)**
temperature rise.	30℃ Max. Change allowed	a minimum current of 0.1 A shall be applied to all tile other contacts. when measured at an ambient temperature of 25 °C. to simulate operation conditions. **(EIA-364-70 Method 1)**
Insulation Resistance	100 MΩmin	Apply a 500 VDC between adjacent terminals of mated connectors for 1 mA Shorted input side and GND(shield) to output side. **(EIA-364-21C)**
Dielectric Withstanding Voltage	No discharge;flashover or breakdown Current leakage :1 mA max See Note (a).	2250 VDC for 1 minute Test between output side and input side **(EIA-364-20)**
LED functional test	With LEDs are present, all LED colours illuminate and meet visual requirements.	Activate LEDs at application current and voltage. 20mA current and 2.2V TYP
MECHANICAL		
Solder ability	Solder able area shall have minimum of 95% solder coverage See Note (a).	And then into solder bath, Temperature at 245 ±5℃, for 5 sec. **(EIA-364-52)**
Mating / Unmating Forces.	Insertion Force: 22Nmax Unmating Force: 22N max	Operation Speed：25 ± 3 mm/minute. Measure the force required to mate/unmate connector. See Note (a). **(EIA-364-13)**

Physical Shock	1μs max See Note (a).	Subject mated plug and connector soldered to P.C. Board to 50 G's (peak value) half-sine shock pulses of 11 milliseconds duration. 3 shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks). The electrical load condition shall be 100mA maximum for all contacts. **(EIA-364-27, Mothod A)**
Durability	750 cycles See Note (a).	The sample should be mounted in the tester and fully mated and unmated the number of cycles specified at the rate of 500±50 cycles per hour. **(EIA-364-09 C)**
Thermal shock	See Note (a)	Mate module and subject to follow condition for 5 cycles: - 55 +0/-3 ℃, 30 minutes +85 +3/-0 ℃, 30 minutes **(EIA-364-32C)**
Vibration, Random	1μs max See Note (a).	Subject connector soldered to P.C. Board and mated with plug together. Each terminal shall be connected in series. The electrical load condition shall be 100mA maximum for all contacts. Subject the specimens to the following condition: Amplitude: 1.52mm Frequency: 10 – 55 – 10Hz This motion shall be applied for 2 hours in each of three mutually perpendicular directions (Total of 6 hours). **(EIA-364-28 D)**
Humidity-Temperature Cycling	The insulation resistance must coincide previously specification See Note (a).	Mated Connector 40℃, 90~95% RH, 96 hours. **(EIA-364-31,Condition A, Method II)**
Salt Spray	See Note (a).	Subject mated/unmated connectors to 5% salt-solution concentration, 35℃ for 8 hours **(EIA-364-26 B)**
Temperature Life	See Note (a)	Subject mated connectors to temperature life at 70 ℃ for 96 hours. **(EIA-364-17 Method A)**
Resistance to soldering heat	Resistance value after test ΔR =Rfinal-Rinitial ≦ 60 milliohms See Note (a)	Place the connector on the P.C. Board, then immerse the solder pin up to the surface of the board in the solder bath at 260℃ ± 5℃ for 10 seconds **(EIA-364-56)**

Figure-1

(a).Shall meet visual requirements show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Figure-2.

6 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group									
	1	2	3	4	5	6	7	8	9	10
Examination of Product	1	1	1	1	1,6	4	1	1,4	1,6	1,4
Low Level Contact Resistance	2,4	2	2,4	2,6	2,9	1,3	2,4	2,5	2,9	2,5
Temperature rise	3									
Insulation resistance		3			3,8				3,8	
Dielectric withstand voltage		4			4,7				4,7	
LED functional test		5								
Solderability		6								
Mating /Unmating force				3,5						
Physical shock			3							
Durability				4						
Thermal shock					5					
Vibration,Random						2				
Humidity-Temperature Cycling							3			
Salt Spray								3		
Temperature Life									5	
Resistance to soldering heat										3
Sample Size	2	2	2	2	2	2	2	2	2	2

Figure-2

Note:

(a) If the product without LED, please ignore and go to next step.

(b) Without any caption use 750 cycles; other choice are 1000 cycles and 1500 cycles (need caption).

(c) Per Sequence Before Test and After Test need test LCR.