



SPECIFICATION

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SPEC. NO.: PS-50384-XXXXXX-XXX REVISION: K

PRODUCT NAME: 0.5mm PITCH LVDS CABLE CONNECTOR

PRODUCT NO: 50384 & 50473 & 51473 & 52473 & 51380 & 61143 SERIES

PREPARED: HU YANG DATE: 2022/2/16	CHECKED: BRAVE DATE: 2022/2/16	APPROVED: BRAVE DATE: 2022/2/16
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ECN No: ECN-006647

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1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
O	ECN-0908123	RELEASE SPEC.	BERNIE	2009/08/14
A	ECN-1003008	UPDATED PLATING/ SALT SPRAY	BERNIE	2010/03/01
B	ECN-1201048	Add HAND SOLDERING TEMPERATURE RESISTANCE	CANDY	2011/1/5
C	ECN-1208474	UPDATED MATING / UN MATING FORCES	BERNIE	2012/09/13
D	ECN-1301127	ADD 51473	BERNIE	2013/01/15
E	ECN-1308024	UPDATED SALT SPRAY GOLD PLATING 15U" FOR 96 HOURS	BERNIE	2013/08/01
F	ECN-1401180	ADD WORKING VOLTAGE	XUFEI	2014/01/10
G	ECN-1604196	ADD 52473	COCOYU	2016/04/15
H	ECN-1605209	UPDATED Current Low Level Contact Resistance/ Current Description	BERNIE	2016/05/12
J	ECN-1711335	ADD 51380 SERIES	LIAO WAN TING	2017/11/21
K	ECN-006647	ADD 61143 SERIES	HU YANG	2022/02/16

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2 SCOPE

This specification covers performance, tests and quality requirements for **0.5mm Pitch LVDS Cable 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 R.o.H.S. and the standard depends on TQ-WI-140101.

4.2 Materials and Finish

- 4.2.1 Contact: High performance copper alloy (**Phosphor Bronze**)
Finish: (a) Contact Area: **Gold plated based on order information**
(b) Under plate: **Nickel-plated all over**
(c) Solder area: **Gold plated**
- 4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0
- 4.2.3 SHELL: **Phosphor Bronze**
Finish : **Gold plated**

4.3 Ratings

- 4.3.1 Working voltage less than 36 volts (per pin)
- 4.3.2 Voltage: **100 Volts AC ,DC (per pin)**
- 4.3.3 Current:
AWG#32 TEFLON :1.0A AC,DC PER CONTACT
AWG#34 TEFLON :1.0A AC,DC PER CONTACT
AWG#36:0.8A AC,DC PER CONTACT
AWG#40:0.3A AC,DC PER CONTACT
AWG#42:0.24A AC,DC PER CONTACT
AWG#44:0.1A AC,DC PER CONTACT
- 4.3.4 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.															
ELECTRICAL																	
Item	Requirement	Standard															
Low Level Contact Resistance	<table border="1"> <tr> <td rowspan="5">初期値 (Initial)</td> <td rowspan="5">Contact</td> <td>AWG#32 --140m ΩMAX.</td> </tr> <tr> <td>AWG#34 --180m ΩMAX.</td> </tr> <tr> <td>AWG#36 --275m ΩMAX.</td> </tr> <tr> <td>AWG#40 --600m ΩMAX.</td> </tr> <tr> <td>AWG#42 --700m ΩMAX.</td> </tr> <tr> <td></td> <td>Ground Shell</td> <td>50m Ω MAX.</td> </tr> <tr> <td rowspan="2">試験後 (After Testing)</td> <td>Contact</td> <td>40m Ω MAX. (ΔR)</td> </tr> <tr> <td>Ground Shell</td> <td>40m Ω MAX. (ΔR)</td> </tr> </table>	初期値 (Initial)	Contact	AWG#32 --140m ΩMAX.	AWG#34 --180m ΩMAX.	AWG#36 --275m ΩMAX.	AWG#40 --600m ΩMAX.	AWG#42 --700m ΩMAX.		Ground Shell	50m Ω MAX.	試験後 (After Testing)	Contact	40m Ω MAX. (ΔR)	Ground Shell	40m Ω MAX. (ΔR)	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23) (initial contains the following conductor resistance of a cable L=100mm)
	初期値 (Initial)			Contact	AWG#32 --140m ΩMAX.												
AWG#34 --180m ΩMAX.																	
AWG#36 --275m ΩMAX.																	
AWG#40 --600m ΩMAX.																	
AWG#42 --700m ΩMAX.																	
	Ground Shell	50m Ω MAX.															
試験後 (After Testing)	Contact	40m Ω MAX. (ΔR)															
	Ground Shell	40m Ω MAX. (ΔR)															
50 m Ω Max.(initial)per contact Δ40 m Ω Max. after test.	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23)																
Insulation Resistance	1000 M Ω Min.	Unmated connectors, apply 250 V DC between adjacent terminals. (EIA-364-21)															
Dielectric Withstanding Voltage	No discharge, flashover or breakdown. Current leakage: 1 mA max.	250 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 METHOD 1,CONDITION 1)															
MECHANICAL																	
Item	Requirement	Standard															
Durability	30 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	See item 7	Operation Speed : 25.4 ± 3 mm/minute.. Measure the force required to mate/Unmate connector. (EIA-364-13)															

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MECHANICAL		
Item	Requirement	Standard
Contact Retention Force	Receptacle:20gf Min. Plug:200gf Min	Operation Speed : 25.4 ± 3 mm/minute. Measure the contact retention force with Tensile strength tester.
Cable Retention Force	1.96 Kg Min.	Operation Speed : 25.4 ± 3 mm/minute. Measure the contact retention force with Tensile strength tester.
Vibration	No electrical discontinuity more than 1 µs Max . No damage (The test was proformed in accordance with EIA-364-28 ,table 1,test Condition I)	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)
Shock (Mechanical)	No electrical discontinuity more than 1 µs Max . No damage (The test was proformed in accordance with EIA-364-27 ,table 1,test Condition A)	Subject mated connectors to 50 G's (peak value) half-sine shock pulses of 11 milliseconds duration. Three 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, test condition A)

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ENVIRONMENTAL		
Item	Requirement	Standard
Resistance to Reflow Soldering Heat	See Product Qualification and Test Sequence Group 6 (Lead Free)	Pre Heat : 150°C~180°C, 60~120sec. Heat : 230°C Min., 40sec Min. Peak Temp. : 260°CMax, 10sec Max. Reflow number cycle:2 times (EIA-364-52)
Thermal Shock	See Product Qualification and Test Sequence Group 3	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 5	Subject mated/unmated connectors to 5% salt-solution concentration, 35°C for (I) Gold flash for 8 hours (II) Gold plating 3 u" for 48 hours. (III) Gold plating 15u" for 96 hours. (EIA-364-26)
Solder ability	Solder able area shall have minimum of 95% solder coverage.	And then into solder bath, Temperature at 245 ±5°C , for 4-5 sec . (EIA-364-52)
Hand Soldering Temperature Resistance	Appearance : No damage	T ≥ 350°C , 3 sec at least

Note. Flowing Mixed Gas shall be conducted by customer request.

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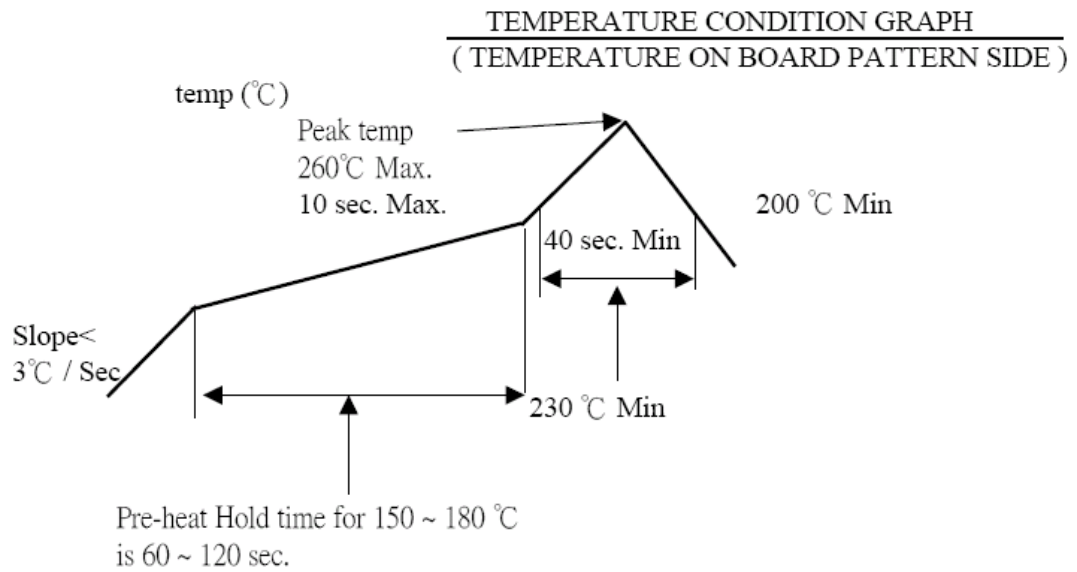
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6 INFRARED REFLOW CONDITION

6.1. Lead-free Process



7 Mating / Unmating Forces

NO. OF Ckt.	Mating Force (Max.)	Unmating Force (Min.)
20	9.45N / 0.96Kgf	2.0N / 0.20Kgf
30	12.15N / 1.24Kgf	3.0N / 0.31Kgf
40	16.20N / 1.65Kgf	4.0N / 0.41kgf
50	20.25N / 2.07Kgf	5.0N / 0.51Kgf

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8 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		1.3	
Low Level Contact Resistance	1、5	1、4	2、10	2、9	2、5	3			
Insulation Resistance			3、9	3、8					
Dielectric Withstanding Voltage			4、8	4、7					
Mating / Unmating Forces	2、4								
Durability	3								
Temperature rise							2		
Vibration		2							
Shock (Mechanical)		3							
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	4	4	4	4	4	4	2	2	

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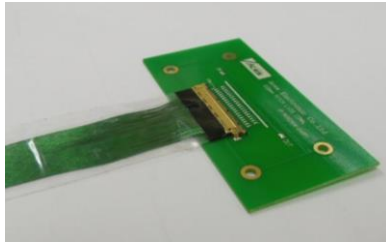
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9 CONNECTOR USAGE

CORRECT USAGE



ERROR USAGE

