



## SPECIFICATION

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SPEC. NO.: PS-50992-XXXXX-001

REVISION: A

PRODUCT NAME: 2.54MM PITCH I/O CONN.

PRODUCT NO: 50992-XXXXX-001

PREPARED:  <b>LERRY</b>  DATE: <b>15/02/25</b>	CHECKED:  <b>WARLES</b>  DATE: <b>15/02/25</b>	APPROVED:  <b>SEAN</b>  DATE: <b>15/02/25</b>
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**TITLE: 2.54MM PITCH I/O CONN.**

RELEASE DATE: 2015-07-31	REVISION: A	ECN No: 1508081	PAGE: <b>2</b> OF <b>8</b>
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1. REVISION HISTORY .....	3
2. SCOPE .....	4
3. APPLICABLE DOCUMENTS.....	4
4. REQUIREMENTS .....	4
5. PERFORMANCE .....	5
6. PRODUCT QUALIFICATION AND TEST SEQUENCE.....	8



Aces P/N: **50992 series**

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RELEASE DATE: 2015-07-31

REVISION: A

ECN No: 1508081

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

## 1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
I	ECN-14xxxxx	NEW SPEC	LERRY	14/11/03
O	ECN-1502280	UPDATE SPEC	LERRY	15/02/25
A	ECN-1508081	Voltage: 13±1 Volts DC (per pin) → 32±1 Volts DC (per pin)	BEN	15/07/31

TITLE: **2.54MM PITCH I/O CONN.**

RELEASE DATE: 2015-07-31

REVISION: A

ECN No: 1508081

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

## 2 SCOPE

This specification covers performance, tests and quality requirements for **2.2mm Pitch I/O Conn..**

## 3 APPLICABLE DOCUMENTS

EIA-364 ELECTRONICS INDUSTRIES ASSOCIATION

ES-X41004

## 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 (**Brass**)  
Finish: (a) Contact Area: **Tin plated.**  
(b) Under plate: **Nickel-plated overall.**
- 4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-HB

### 4.3 Ratings

- 4.3.1 Voltage: **32±1 Volts DC (per pin)**
- 4.3.2 Current: **1 Amperes (per pin)**
- 4.3.3 Operating Temperature : **-40°C to +105°C**

**TITLE: 2.54MM PITCH I/O CONN.**

RELEASE DATE: 2015-07-31

REVISION: A

ECN No: 1508081

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												
Voltage Drop	Initial:3 mΩ MAX. After: 10 mΩ MAX. <b>initial resistance is reference only</b>	Apply voltage and current specified in Table to male and female connectors or male and female terminal in fitted state, and then measure voltage drop at the point of Fig.1 or Fig.2 <table><tr><td>Application</td><td>Release Voltage</td><td>Short Current</td></tr><tr><td>Micro-Current Circuit</td><td>20 ± 5 mV</td><td>10mA</td></tr><tr><td>Normal Current Circuit</td><td>14 ± 0.1 V</td><td>1A</td></tr></table>	Application	Release Voltage	Short Current	Micro-Current Circuit	20 ± 5 mV	10mA	Normal Current Circuit	14 ± 0.1 V	1A			
Application	Release Voltage	Short Current												
Micro-Current Circuit	20 ± 5 mV	10mA												
Normal Current Circuit	14 ± 0.1 V	1A												
Insulation Resistance	100 M Ω Min.	Unmated connectors, apply 500 V DC for 60 seconds between adjacent terminals.												
Dielectric Withstanding Voltage	No discharge, flashover or breakdown. Current leakage: 1 mA max.	500 V AC Min. at sea level for 1 minute. Test between adjacent contacts of mated connectors. (EIA-364-20)												
Temperature rise	Before the test 30° C MAX After the test 40° C MAX	Mate connector: measure the temperature rise at rated current until temperature stable. The ambient condition is still air at 25℃. Wire size: AVSS 0.5 mm2. <table><tr><td>0</td><td></td><td>0</td><td></td><td>0</td><td></td></tr><tr><td></td><td>0</td><td></td><td>0</td><td></td><td>0</td></tr></table> (0 : electrically alive)	0		0		0			0		0		0
0		0		0										
	0		0		0									
MECHANICAL														
Durability	10 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)												

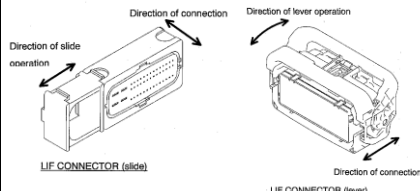
**TITLE: 2.54MM PITCH I/O CONN.**

RELEASE DATE: 2015-07-31

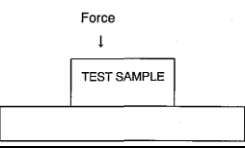
REVISION: A

ECN No: 1508081

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

Mating/Unmating Force	75N Max.	<p>Operation Speed : 100±3mm/minute. Measure the force required to mate/Unmate connector. (EIA-364-13)</p> <p>Insertion: with the lock Extraction: without the lock</p>
Strength of lock	100N min.	<p>The electric wire shall be pulled axially and in a inclined to 90°, then determine the load which has caused the connector to get out of place or to break. Rate:20mm/min</p> 

## ENVIRONMENTAL

Item	Requirement	Standard
Humidity	See Product Qualification and Test Sequence Group <b>4</b>	Mated Connector 55℃, 85% RH, 96 hours. (EIA-364-31,Condition A, Method II)
High Temperature test	See Product Qualification and Test Sequence Group <b>6</b>	Subject mated connectors to temperature life at 105℃ for 96 hours. Measure Signal.
Low Temperature test	See Product Qualification and Test Sequence Group <b>7</b>	Subject mated connectors to temperature life at -40℃ for 96 hours. Measure Signal.
Temperature life(Heat)	See Product Qualification and Test Sequence Group <b>8</b>	<p>25N force to the top of the connector lock. 80℃,95%RH for 72hr.</p> 
Temperature life	See Product Qualification and Test Sequence Group <b>9</b>	At 75℃,For 1000hours
Thermal Shock	See Product Qualification and Test Sequence Group <b>10</b>	<p>Mate module and subject to follow condition for <b>100</b> cycles.</p> <p>1 cycles: -40℃, 30 minutes +105℃, 30 minutes (EIA-364-32, test condition VIII)</p>

**TITLE: 2.54MM PITCH I/O CONN.**

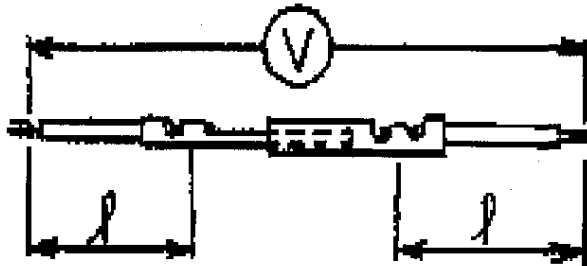
RELEASE DATE: 2015-07-31

REVISION: A

ECN No: 1508081

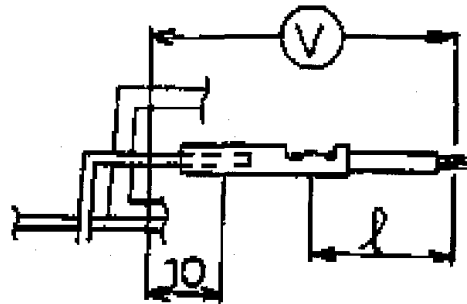
PAGE: **7** OF **8**

Fig 1



L=75mm or 100mm

Fig 2



L=75mm or 100mm

**TITLE: 2.54MM PITCH I/O CONN.**

RELEASE DATE: 2015-07-31

REVISION: A

ECN No: 1508081

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

## 6. PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group									
	1	2	3	4	5	6	7	8	9	10
	Test Sequence									
Examination of Product				1、6		1、6	1、6	1,5	1、4	1、7
Voltage Drop		1、3		2、9		2、9	2、9			2、10
Insulation Resistance				3、8		3、8	3、8		2、5	3、9
Dielectric Withstanding Voltage				4、7		4、7	4、7			4、8
Temperature rise	1									
Mating / Unmating Forces		2						3		
Strength of lock			1					4		
Terminal / Housing Retention Force					1					
Durability										
Humidity				5						6
High Temperature test						5				
Low Temperature test							5			
Temperature life (Heat)								2		
Temperature life									3	
Thermal Shock										5
Sample Size	5	5	5	5	5	5	5	5	5	5