



SPECIFICATION

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SPEC. NO.: PS-50417-XXXXX-XXX

REVISION: B

PRODUCT NAME: 0.8mm Pitch WTB IDC CONN.

PRODUCT NO: 50417 series

PREPARED: Yan, Jin Xiu DATE: 2020.10.12	CHECKED: Xu, Zhi Yong DATE: 2020.10.12	APPROVED: Xu, Zhi Yong DATE: 2020.10.12
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1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
I	ECN-0912223	NEW SPEC	liuwei	2009.12.22
O	ECN-1006123	RELEASED	liuwei	2010.06.15
A	ECN-1401187	ADD WORKING VOLTAGE	XUFEI	2014.01.13
B	ECN-000717	ADD Salt Spray (Gold plating 3 u" for 48 hours)	YanJinXiu	2020/10/12

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2 SCOPE

This specification covers Aces's [0.8mm Pitch WTB IDC CONN.](#) ◦ This Product Spec. Refer to...Aces-P/N : [50417 Series](#).

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 Terminal: High performance copper alloy ([Phosphor Bronze](#))
Plated: (a) Finish: [See order information](#)
(b) Under plate: [Nickel-plated all over](#)
- 4.2.2 Housing: [Thermoplastic, High temp. UL94V-0](#)

4.3 Ratings

- 4.3.1 Working voltage less than 36 volts (per pin)
- 4.3.2 Voltage: [50 Volts DC](#)
- 4.3.3 Current: [DC 0.2 Amperes AWG# 36](#)
- 4.3.4 Operating Temperature : [-25°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		
Low-signal Level Contact Resistance	Initial: 30 m Ω max. After: 40 m Ω max.	Mate connectors and measure by dry circuit, 20m V max. 10m A (EIA-364-23)
Insulation Resistance	100 M Ω Min.	Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21)
Dielectric Withstanding Voltage	No Breakdown.	Mate connectors and apply 500 V AC/rms for 1 minute between adjacent terminal or ground (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)
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 \pm 3mm/min. (EIA-364-09)
MECHANICAL		
Item	Requirement	Standard
Insertion /Extraction Forces (Mating/ Un-mating Force)	See item 6	Measure the force necessary to mate connector assemblies at a maximum rate of 25.4mm per minute. (EIA-364-13)
Wire pull out force	See item 8.	Fix the crimped terminal ,apply axial pull out force on the wire at speed rate of 25.4mm per minute.
Terminal/Housing Retention force	3N Min.	Apply axial pull out force at the speed rate of 25.4mm per minute on the terminal assembly in the housing

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ENVIRONMENTAL

Vibration	1 μ s Max.	Amplitude : 1.5 mm P-P Sweep time : 10-55-10 Hz in 1 minute Duration : 2 hrs in each X.Y.Z. axis (EIA-364-28)
Shock	1 μ s Max.	Mate connectors and subject to the following shock conditions. 3 shocks shall be applied along 3 mutually perpendicular axes, passing DC 1mA current during the test. (Total of 18 shocks) Test Pulse : Half Sine Peak Value : 490m/s ² [50G] (EIA-364-27)
Heat Resistance	Appearance : no damage Contact Resistance : 40 m Ω max	+85 \pm 2 $^{\circ}$ C, 96 hrs.
Cold Resistance	Appearance : no damage Contact Resistance : 40 m Ω max	-40 \pm 2 $^{\circ}$ C, 96 hrs
Humidity	Appearance : no damage Contact Resistance : 40 m Ω max Insulation Resistance : 100 m Ω min.	Temperature : 60 \pm 2 $^{\circ}$ C Relative humidity : 90 ~ 95 % Duration : 96 hrs. (EIA-364-31)
Temperature Cycling	Appearance : no damage Contact Resistance : 40 m Ω max	5 cycles of : (a) -40 \pm 3 $^{\circ}$ C, 30 minutes (b) +85 \pm 2 $^{\circ}$ C, 30 minutes
Salt Spray (Only For Gold Plating)	Appearance : no damage	Subject mated/unmated connectors to 5% salt-solution concentration, 35 $^{\circ}$ C (I) Gold flash for 8 hours (II) Gold plating 3 u" for 48 hours. (III) Gold plating 5 u" for 96 hours (EIA-364-26)

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6 Insertion / Extraction Force

NO. OF Ckt.	Insertion Force (Max.)	Withdrawal Force (Min)
2	1.5Kgf	0.15 Kgf
3		
4		
5	2.0 Kgf	0.25 Kgf
6		
7		
8		
9		
10		
11	3.0 Kgf	0.35 Kgf
12		
13		
14		
15		
16		
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18		
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22		

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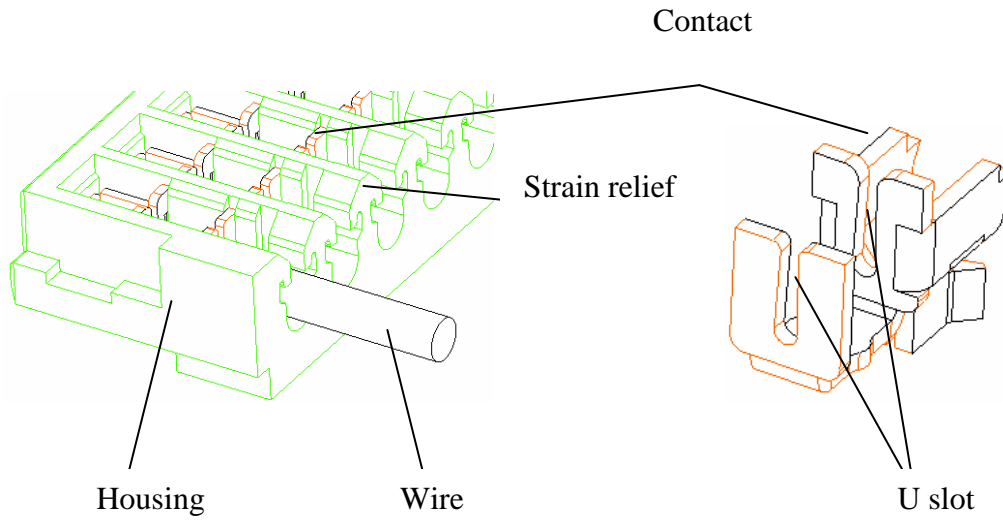
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7 Applicable Specifications



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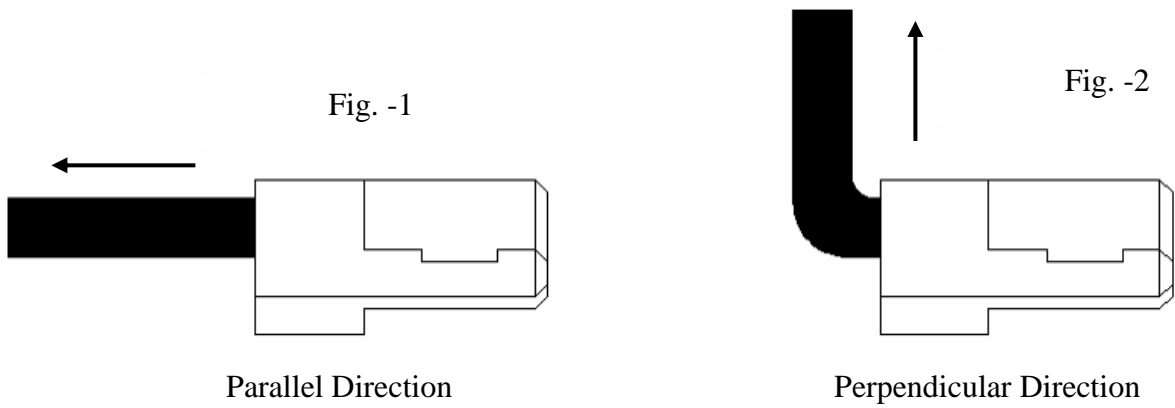
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8 Contact V.S Wire Retention Force Table

Insulation OD	Wire	Material of insulation	Parallel	Perpendicular
Φ0.38±0.02mm	AWG#36	PVC	4N Min	1.5N Min
		Halogen-free	4N Min	1.5N Min
Φ0.29±0.015mm	AWG#36	Teflon/PTFE	2.5N Min	1N Min

Note:

If need retention force more that must use the UV glue.



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9 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group										
	1	2	3	4	5	6	7	8	9	10	11
	Test Sequence										
Examination of Product		1、4	2	2		1、7	1、4	2			
Contact Resistance		2、5			1、4	2、10	2、5				
Insulation Resistance						3、9					
Dielectric Strength						4、8					
Temperature Rise	1										
Insertion /Extraction Forces		3									
Wire pull out Forces			1								
Terminal/Housing Extraction Forces				1							
Vibration					2						
Heat Resistance					3						
Cold Resistance						5					
Humidity						6					
Temperature Cycling							3				
Salt Spray								1			
Sample Size	2	4	4	4	4	4	4	4			