



SPECIFICATION

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SPEC. NO.: PS-52910-XXXXX-XXX REVISION: D

PRODUCT NAME: ADVANCE POWER CARD EDGE CONN.

PRODUCT NO: 52910 52912 SERIES

PREPARED: JILL DATE: 2015/12/31	CHECKED: RYAN DATE: 2015/12/31	APPROVED: K.HISATOMI DATE: 2015/12/31
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RELEASE DATE: 2015/12/31

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ECN No: 1512456

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Aces P/N: **52910series**

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1 Revision History

Rev.	ECN #	Revision Description	Prepared	Date
1	ECN-1108475	NEW REPORT (APD1000269)	MARK	2011/08/26
O	ECN-1203052	RELEASE REPORT	MARK	2012/03/03
A	ECN-1412394	ADD NEW SERIES NUMBER (52912)	SIMON	2014/12/31
B	ECN-1503058	CHANGE SAMPLE SIZE ,Contact Resistance	SIMON	2015/02/25
C	ECN-1510302	ADD Current leakage:1 mA max.	MARK	2015/11/12
D	ECN-1512456	ADD Withstanding Voltage 500V DC for Single PIN	JILL	2015/12/31

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2 SCOPE

This specification provides information and requirements regarding application of the Low Profile High Power connector used in high power supply & system.

3 APPLICABLE DOCUMENTS

3.1 EIA-364-TP70: ELECTRONICS INDUSTRIES ASSOCIATION

3.2 SAFETY AGENCY APPROVALS

CUL / UL File Number : [12CA09879](#)

TUV Certificate Number : [B 13 09 85359 001](#)

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.

4.2 Materials and Finish

- 4.2.1 Contact: High performance copper alloy
Finish: (a) Contact Area: [Refer to the drawing.](#)
(b) Under plate: [Refer to the drawing.](#)
(c) Solder area: [Refer to the drawing.](#)
- 4.2.2 Housing: Thermoplastic High Temp., Resin, UL94V-0

4.3 Ratings

- 4.3.1 Voltage: [300 Volts AC / DC \(Power\)](#) [50 Volts DC \(Signal\)](#)
- 4.3.2 Current Rating :
 - 4.3.2.1 Power pin [60A](#) and signal pin [1.5A](#) full on compliant with UL certification
 - 4.3.2.2 Power pin [35A](#) and signal pin [0.9A](#) full on compliant with CUL certification
- 4.3.3 Operating Temperature : [-40°C to +125°C \(including T-rise from applied current\)](#)
Non- Operating Temperature : [-40°C to +125°C](#)

4.4 Durability

250 Cycle

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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	Max. Change Signal Contact: 25 m Ω Max. Power Contact: 1 m Ω Max. ΔR Signal Contact 12.5 m Ω Max ΔR.Power Contact 0.5 m Ω Max	Mate connectors, apply max. voltage of 20mV and a current of 100mA (EIA-364-23)
Insulation Resistance	5000 M Ω Min.	Apply 500 VDC between adjacent terminals or ground. For Power Contact (EIA-364-21)
Dielectric Withstanding Voltage	No discharge, flashover or breakdown. Current leakage:1 mA max.	Apply with a test voltage of 1600 V/RMS for power contact and 500 V/RMS for singal contact. For 1 minute (EIA-364-20)
Temperature rise	30°C T-Rise Max.	Mate connector: measure the temperature rise at rated current until temperature stable. The ambient condition is still air at 30°C (EIA-364-70,METHOD1,CONDITION1)

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MECHANICAL		
Item	Requirement	Standard
Mating Force	0.15 kgf per signal pin Max. 0.7 kgf per Power Contact Max.	Operation Speed : 25.4 ± 3 mm/min. Measure the force required to mate connector. (EIA-364-13)
Unmating Force	0.015 kgf per signal pin Min. 0.15 kgf per Power Contact Min.	Operation Speed : 25.4 ± 3 mm/min. Measure the force required to unmating connector. (EIA-364-13)
Durability	Max. Change Signal Contact: 25 m Ω Max. Power Contact: 1 m Ω Max. ΔR Signal Contact 12.5 m Ω Max. ΔR Power Contact 0.5 m Ω Max.	Mate connectors 250 cycles (EIA-364-09)
Normal Force	0.045 kgf per signal pin Min. 0.3 kgf per Power Contact Min.	Apply perpendicular force to terminal at rate of 25.4 ± 3mm/min.
Vibration	Max. Change Signal Contact: 25 m Ω Max. Power Contact: 1 m Ω Max. ΔR Signal Contact 12.5 m Ω Max. ΔR Power Contact 0.5 m Ω 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)
Shock (Mechanical)	1 μs Max.	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
Thermal Shock	Max. Change Signal Contact: 25 m Ω Max. Power Contact: 1 m Ω Max. △R Signal Contact 12.5 m Ω Max. △R Power Contact 0.5 m Ω Max.	Mate connectors, expose to 5 cycles. From -55 +0/-3 °C, 30 minutes to +85 +3/-0 °C, 30 minutes (EIA-364-32, test condition III)
Humidity	Max. Change Signal Contact: 25 m Ω Max. Power Contact: 1 m Ω Max. △R Signal Contact 12.5 m Ω Max. △R Power Contact 0.5 m Ω Max	Mate module and subject to follow condition for 24 cycles. 1 cycles: -25 +0/-3 °C 80% RH, 30 minutes +65 +3/-0 °C, 80% RH 30 minutes (EIA-364-32, Test condition I)
Temperature life	Max. Change Signal Contact: 25 m Ω Max. Power Contact: 1 m Ω Max. △R Signal Contact 12.5 m Ω Max. △R Power Contact 0.5 m Ω Max.	Mate connectors to temperature life at 105°C for 180 hours . (EIA-364-17, Test condition A)
Salt Spray	See Product Qualification and Test Sequence Group 7	Subject mated/unmated connectors to 5% salt-solution concentration, 35°C (I) NiPd 30u" for 96 hours . (EIA-364-26)
Solder Resistance (Wave)	Visual : No damage to insulator material	Submerge terminal tails in solder Dwell:2.0+/-0.5sec Solder Temp: 260 °C Max. (EIA-364-52)
Solder ability	Tin plating: Solder able area shall have minimum of 95% solder coverage. Gold plating: Solder able area shall have minimum of 75% solder coverage	And then into solder bath, Temperature at 260 ±5°C , for 4-5 sec. (EIA-364-52)



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6 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							
Low Level Contact Resistance		1,5	1,4	2,10	2,9	2,5							
Insulation Resistance				3,9	3,8								
Dielectric Withstanding Voltage				4,8	4,7								
Temperature rise	1												
Mating/ Unmating Forces		2,4											
Durability		3											
Normal Force								1					
Vibration			2										
Shock (Mechanical)			3										
Thermal Shock				5									
Humidity				6									
Temperature life					5								
Salt Spray						3							
Solder ability							1						
Sample Size	2	4	4	4	4	4	4	4	4				

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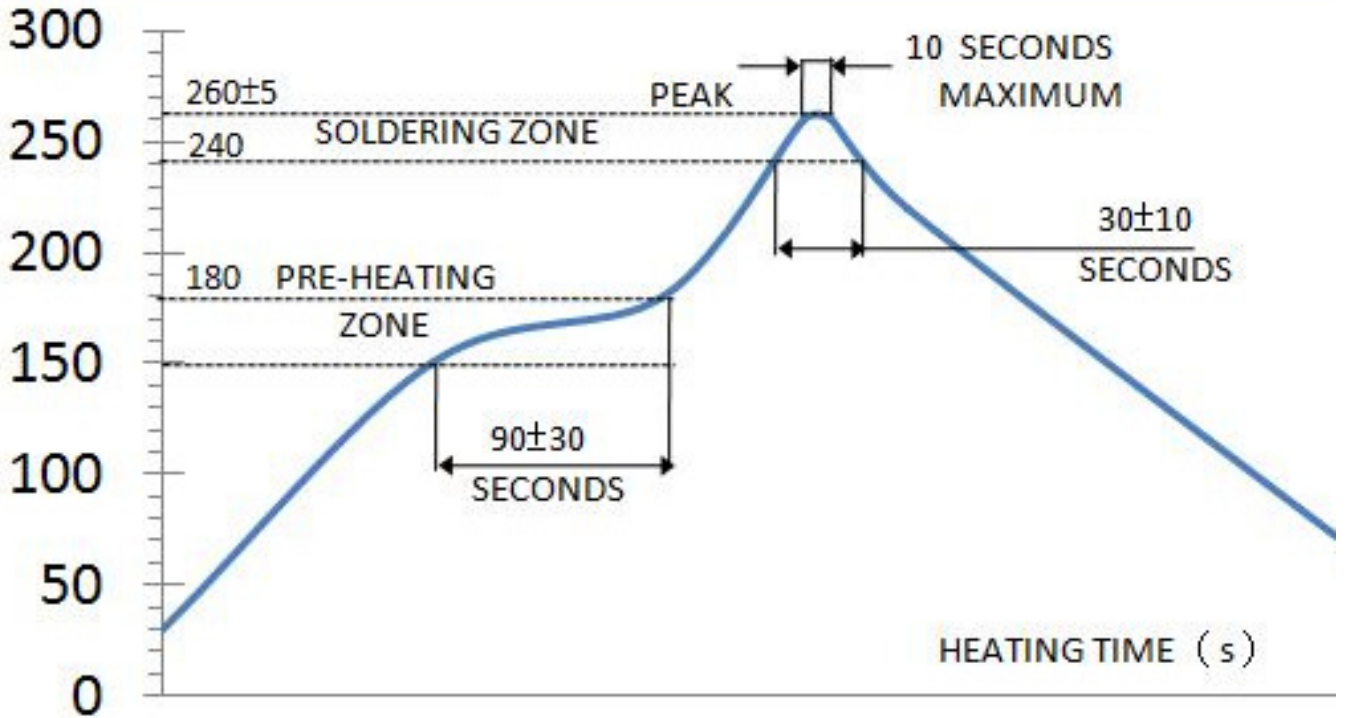


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