

SPECIFICATION

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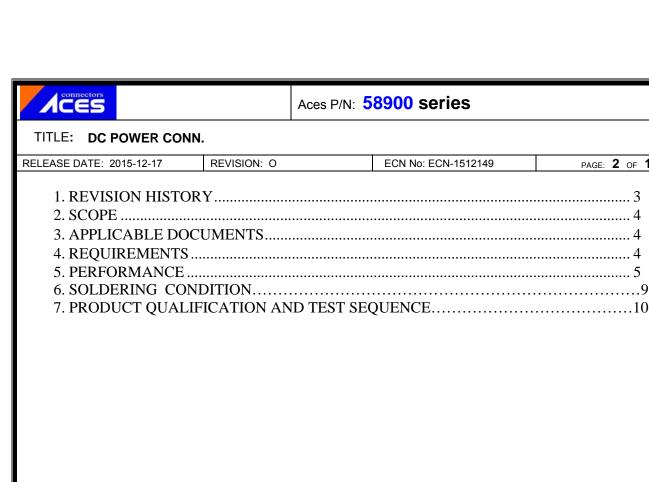
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SPEC. NO.: PS-589	900-XXXXX-XXX	REVISION:	0
PRODUCT NAME	DC POWER CONN.		
PRODUCT NO:	58900 SERIES		

PREPARED:	CHECKED:	APPROVED:
MARK-C	BRUCE	JACK
DATE: 15/12/17	DATE: 15/12/17	DATE: 15/12/17



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Connectors	Aces P/N: 58900 series
TITLE: DC POWER CONN.	

REVISION: O

1 Revision History

RELEASE DATE: 2015-12-17

Rev.	ECN#	Revision Description	Prepared	Date
1	ECN-1504111	NEW SPEC	MARK-C	15'/03/02
2	ECN-1506158	ADD P/N	MARK-C	15'/06/09
0	ECN-1512149	RELEASE	MARK-C	15'/12/17

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2 SCOPE

This specification covers the requirements for product performance, test methods and quality assurance provisions of **DC Power Connector**.

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 this 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.

EIA-364: The Test Sequence and Test Procedures for Electrical Connectors and Sockets.

4 REQUIREMENTS

4.1 Design and Construction

Product shall be of the design, construction and physical dimensions specified in the applicable product drawing

4.2 Materials and Finish

4.2.1 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0

4.2.2 Contact: Copper Alloy

Finish: Refer to the drawing.

4.2.3 PIN: Copper Alloy

Finish: Refer to the drawing.

4.2.4 Shell: Copper Alloy

Finish: Refer to the drawing.

4.2.5 Cover: Thermoplastic or Thermoplastic High Temp., UL94V-0

4.3 Ratings

4.3.1 Rated Voltage: 20 V

4.3.2 Current: 5 A

4.3.3 Temperature : -40° C to $+85^{\circ}$ C

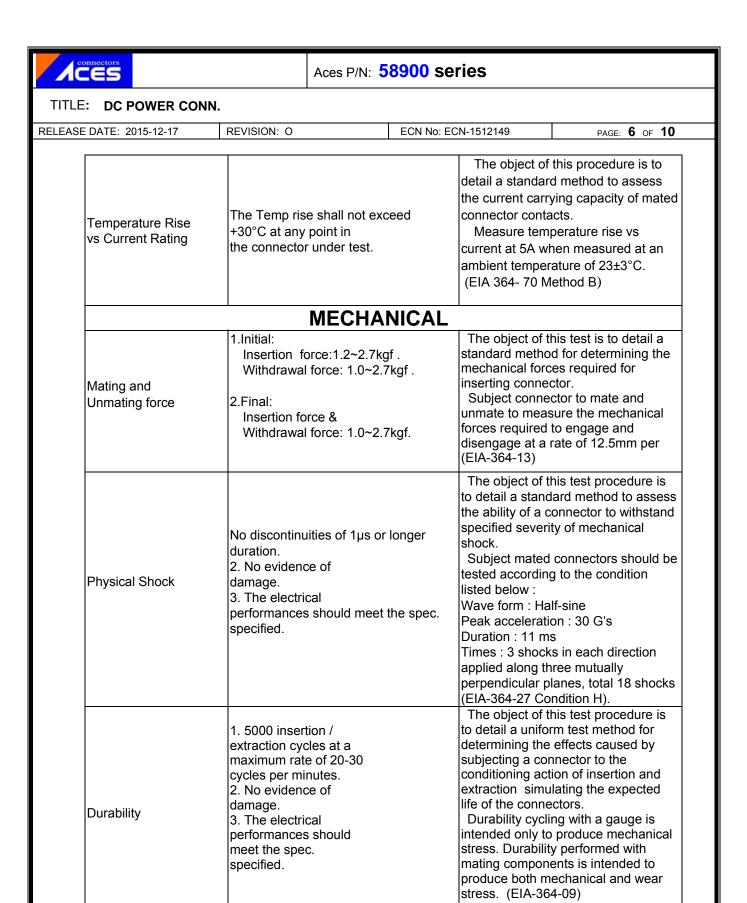


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5 Performance

5.1. Test Requirements and Procedures Summary

Item	Requirement	Standard						
Examination of Product	Visual and dimensional inspection per	Meet requirement of product						
LAATIIII ALIOTT OF FTOULCE	product drawing	drawing						
	ELECTRICAL							
Item Requirement Standard								
Low Level Contact Resistance	 (1) BEFORE TEST OR INITIAL: 20mΩ MAX. (2)AFTER LIFE TEST: 30mΩ MAX. (3)AFTER HUMIDITY TEST: 30mΩ MAX. 	The object of this test procedure is to detail a standard method to measure the electrical resistance across a pair of mated contacts such that the insulating films, if present, will not be broken or asperity melting will not occur. Subject mated contacts assembled in housing to closed circuit current of 100 mA maximum at open circuit at 20 mV maximum. (EIA 364-23) The object of this test procedure is to detail a standard method to assess the insulation resistance of connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members. Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies. Test Voltage: 500V DC.(EIA 364-21)						
Insulation Resistance	 (1)Before test or inital: 100MΩ Min. (2)After life test: 100MΩ Min. (3)After humidity test: 50MΩ Min. (4)After heat test: 100MΩ Min. (5)After cold test: 100MΩ Min. (6)After soldering heat test: 100MΩ Min. 							
Dielectric Withstanding Voltage	1. No flashover, No sparkover, No excess leakage, No breakdown. 2. Current leakage: < 0.5 mA	The object of this test procedure is to detail a test method to prove that a connector can operate safely at its rated voltage and withstand momentary over potentials due to switching, surges and/or other similar phenomena. Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector assemblies. Test Potential: 500 V AC at sea level Test Duration: 60 seconds (EIA-364-21)						





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ENVIRONMENTAL							
Item	Requirement	Standard					
Humidity (Temperature Cycling)	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.	The object of this test procedure is to detail a standard test method for the evaluation of the properties of materials used in connectors as they are influenced by the effects of high humidity and heat. Subject mated and unmated connectors should be tested according to the condition listed below: Temperature:38~42°C Humidity:90~95%(R.H) Duration:96 hours (EIA 364-31 Method III Test Condition A)					
Vibration (Random)	1. No discontinuities of 1µs or longer duration. 2. No evidence of damage. 3. The electrical performances should meet the spec. specified.	This test procedure is applicable to connectors that may, in service, be subjected to conditions involving vibration. Whether a connector has to function during vibration or merely to survive conditions of vibration should be clearly stated by the detailed product specification. In either case, the relevant specification should always prescribe the acceptable performance tolerances. Subject mated connectors should be tested according to the condition listed below: Test condition: Random Frequency: 50 ~ 2000 Hz PSD value: 5.35 Grms minimum Duration: 15 minutes/axis Times: Each of three mutually perpendicular planes. (EIA 364-28 Condition V Test letter A)					



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Temperature Life	1. No discontinuities of 1µs or longer duration. 2. No evidence of damage. 3. The electrical performances should meet the spec.	standard test n ability of a con elevated tempe electrical loadii Subject mate	bject mated connectors should be ed according to the condition ed below:			
Thermal Shock	1. No evidence of damage. 2. The electrical performances should meet the spec. specified.	the resistance exposure at extemperatures a alternate expose extremes, simulations for sand application. Subject material connectors should be subject. Temperature: Cycles: 5 cycles.	this test is to determine of a connector to ktremes of high and low and to the shock of sures to these ulating the worst case storage, transportation n. d and unmated ould be tested ne condition listed			
Salt Spray	1.No evidence of Physical dan 2.The electrical performances should meet the spec. specified.	to detail a stan assess the effer laden atmosph components, firmechanisms. Subject mate connectors she according to the below: Temperature: Humidity: 95 ~ Connectors to Duration: 48 h	ed and unmated ould be tested ne condition listed 35±1.1°C ~ 98% (R.H.) 5 5% salt-solution			



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Cold test	No evidence of damage. The electrical performances should meet the spec. specified.	Temperature : -40°C Duration :96hours (EIA-364-59)
Solder ability	Continuous solder coating with a min. 95% coverage	The object of this test procedure is to detail a uniform test method for determining connector solder ability. The surfaces to be tested shall be immersed in flux for a minimum of 5 seconds to 10 seconds. Unless otherwise specified in the referencing document, the temperature of the solder bath shall be maintained as measured below the surface oh the solder at 245°C±5°C Examination The test specimens shall be examined at 10X magnification. Referee magnification shall be at 30X magnification and shall only be used when examining specimens rejected. (EIA 364-52 Category 2)

6 SOLDERING CONDITION

AUTOMATIC OR HAND SOLDERING:

THE TERMINAL TESTED SHALL BE HEATED TO 1.5 MILLIMETERS FROM A TIP OF THE TERMINAL BY A SOLDERING IRON TO HAVE A CAPACITY OF 60 WATTS CONSUMPTION AT A TEMPERATURE CONTROLLED OF $350^{\circ}\text{C} \pm 10^{\circ}\text{C}$ FOR A PERIOD OF 0.5 SECONDS.



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7 PRODUCT QUALIFICATION AND TEST SEQUENCE

						Test Group					
		_			I			_			
Test or Examination	1	2	3	4	5	6	7	8			
					Tes	t Seque	nce				
Appearance	1,3	1,7	1,10	1,10	1,9	1,9	1,3	1.9			
Low Level Contact Resistance		2,6	2,9	2,7	2,6	2,6		2,6			
Insulation Resistance			3,7	3,8	3,7	3,7		3,7			
Dielectric Withstanding Voltage			4,8	4,9	4,8	4,8		4,8			
Temperature Rise vs Current Rating	2										
Mating and Unmating force		3,5									
Physical Shock			6								
Durability		4									
Humidity(Temperature Cycling)				5							
Vibration(Random)			5								
Temperature Life					5						
Thermal Shock				6							
Salt Spray						5					
Cold test								5			
Solder ability							2				
Sample Size	2	5	5	5	5	5	5	5			