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EIA STANDARD

EIA-364-D

Electrical Connector/Socket Test Procedures Including Environmental Classifications

EIA-364-D

(Revision of EIA-364-C)

JULY 2001



Electronic Components, Assemblies & Materials Association

ELECTRONIC COMPONENTS, ASSEMBLIES & MATERIALS
ASSOCIATION

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(From Standards Proposal Nos. 4555, 4555-1, & 4555-2, formulated under the cognizance of the CE-2.0 National Connector Standards Committee.)

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ELECTRICAL CONNECTOR/SOCKET
TEST PROCEDURES
INCLUDING ENVIRONMENTAL CLASSIFICATIONS

(From EIA Standards Proposal No. 4555, formulated under the cognizance EIA CE-2.0 Committee on National Connector Standards, and previously published in EIA-364-C.)

1 Introduction

1.1 Scope

This standard establishes a recommended minimum test sequence and test procedures for electrical connectors and sockets. This standard also includes administrative details and guidelines for connector/socket qualification and an annex for pertinent technical information.

1.2 Classifications

1.2.1 It is intended that the environmental classifications as established provide a guide to develop test sequences that are intended to assure proper evaluation for each classification.

1.2.2 Classes according to the intended application are defined in table 1. The classes cover a broad range of environmental conditions starting with controlled indoor environments and progressing to more severe environments, e.g., vehicular, marine and airborne applications. Four levels of building and room environments are listed in order to differentiate between significant control techniques that may or may not be present (temperature, humidity and/or filtering techniques).

1.2.3 Environmental conditions for each class are shown in table 2. The temperature and humidity levels reflect the expected maximum equipment operating conditions.

1.3 Applicable documents

Standard test procedures of the EIA-364 series shall be applied as specified herein.

Table 1 – Class definitions

Class number	Definition
General	
G1.0	Year-round filtered air conditioning with humidity control
G1.1	Year-round air conditioning (non-filtered) with humidity control
G1.2 (see note)	Air conditioning (non-year-round) with no humidity control
G1.3	Without air conditioning or humidity control but with normal heating and ventilation
G2.0	With normal ventilation but uncontrolled heating and humidity
G2.1	Year-round exposure to heat, cold, moisture, industrial pollutants, and fluids
G3.0	Outdoor environment with moisture, marine and/or weathering conditions
Application specific	
A1.0	Aircraft environment (uncontrolled)
A2.0	Automotive (uncontrolled)
A3.0	Test sockets
A4.0	Burn-in sockets
A5.0	Space applications
NOTE — For specific environmental test methodology to assess the performance of electrical connectors and sockets used in business office applications that are no more severe than class number G.1.2; see EIA-364-1000.01.	

Table 2 – Equipment operating environmental conditions

Class number	Temperature (see note 1)	Relative humidity (see note 3)	Marine atmosphere	Harsh environment
G1.0	+25 °C to +65 °C	40% to 60%	No	No
G1.1	+25 °C to +65 °C	40% to 75%	No	Possible
G1.2 (see note 2)	+25 °C to +85 °C	85% maximum	No	Yes
G1.3	+15 °C to +85 °C	95% maximum	No	Yes
G2.0	+5 °C to +85 °C	95% maximum	No	Yes
G2.1	-40 °C to +100 °C	95% maximum	Possible	Yes
G3.0	-55 °C to +125 °C	95% maximum	Yes	Yes
A1.0	-65 °C to +200 °C	95% maximum	Yes	Yes
A2.0	-55 °C to +150 °C	95% maximum	Yes	Yes
A3.0	+15 °C to +35 °C	85% maximum	No	Possible
A4.0	-65 °C to +200 °C	85% maximum	No	Possible
A5.0	-65 °C to +200 °C	No	No	Possible

NOTES

- 1 The temperature limits as shown above are considered maximum limits. If the application within a classification requires limits other than those shown, said limits shall be specified in the referencing document.
- 2 For specific environmental test methodology to assess the performance of electrical connectors and sockets used in business office applications that are no more severe than class number G.1.2; see EIA-364-1000.01.
- 3 The values indicated are test conditions and not operating conditions.

2 Requirements

2.1 Qualification

Qualification sequences and severity levels shall be invoked by the referencing document. The referencing document shall reference the applicable class and the specific test sequences to be used for product qualification.

2.1.1 Qualification of a connect/socket series may be established by similarity through testing parts representing the maximum size or as defined by the qualifying agency. A series includes connectors/sockets and contacts of identical design, spacing and configuration.

2.1.1.1 Similarity shall be granted for all sizes up to that level to which testing has been performed. Specimens for all sizes for which similarity is desired shall be submitted at the time of qualification.

2.1.1.2 Qualified contacts which have the same physical dimensional configuration, base material, plating type and thickness, material thickness in the engagement area except that the termination area has been changed (e.g. crimp, solder, IDC, etc.) shall be qualified with testing pertinent to the termination technique involved.

2.1.2 Following a connector/socket qualification, the manufacturer shall make no design changes, substitutions, material changes or process changes that affect form, or function, without full or partial requalification.

2.1.2.1 Requalification may consist of only those tests pertinent to the specific attributes that may be affected by said changes.

2.1.3 To successfully qualify or requalify a connector/socket series, test samples shall meet all the requirements as specified within the specified test groups. Deviation from the specified requirements may be granted only by the qualifying agency.

2.1.4 To successfully qualify, each specimen shall pass all the test requirements as specified for each test in the sequences indicated. No defects shall be allowed.

3 Qualification procedure

3.1 Test sequence

3.1.1 The test specimens shall be subjected to the test sequence as shown in figure 1. The test sequence establishes the order of exposure to the environmental conditions, and the subsequent test parameters measured to determine adequate performance for each connector/socket class.

3.1.2 Specific tests may be added or deleted from the recommended sequence, supplemental and/or termination tests contingent on the specific application.

3.2 Specimen size

3.2.1 The sample size shall be as specified in the referencing document. If not specified, each test group shall consist of the quantity of the test specimens shown in figure 1. Each specimen consisting of both mated halves with a full complement of contacts and shall include applicable hardware when appropriate.

3.2.2 The referencing document shall specify the number of data points to be monitored for each attribute. If not specified, 25% of the contact positions/specimen shall be measured but not fewer than 25. If there are fewer than 25 contact positions then all contact positions shall be measured. Additional specimens shall be added in order to obtain 25 data points for those situations when the number of positions are less than 25. When applicable, the positions measured shall be identified by a specimen identification and position number. All positions to be monitored shall be randomly chosen or as specified.

3.3 Standard atmospheric conditions

3.3.1 Unless otherwise specified, all measurements shall be made within the following ambient conditions:

- Temperature: 15 °to 35 °C,
- Atmospheric pressure: 650 millimeters of mercury to 800 millimeters of mercury,
- Relative humidity 20% to 80%.

3.3.2 Special tests may require tighter control of conditions when specified in the test procedure.

3.4 Test specimen

The test specimens shall be representative of the manufacturer's normal production and shall be selected at random. Each test specimen or part thereof shall be individually identified, such that the marking will not be destroyed throughout the test.

3.5 Test specimen disposition

Following completion of the test program, test specimens should be packaged and retained by the testing facility or test sponsor for not less than one year unless otherwise specified in the referencing document. Unit identification and all test report identification shall be included in each package.

3.6 Test data

The results of each test shall be recorded as data. Details of failure or failure analysis shall be included.

3.7 Data measurement

Unless otherwise specified in the specific procedures used, measurements following an exposure shall be performed within 24 hours. Measurements shall be performed after the samples have recovered to room ambient conditions unless otherwise specified. The test specimens shall be handled in a manner so as not to disturb the contact interface. If measurements can be performed without handling of the test samples, then this procedure is preferable.

3.8 Test report

A test report shall be prepared by the test facility. Specimen preparation, schematics, photographs, etc. as applicable shall also be included. The test report shall contain a description (complete part number is acceptable) of the test specimens, summary of results, discussion of any test problems, a statement of conformance to requirements specified in the referencing document, test data as specified in the referencing document, and test descriptions which shall include procedures, test conditions, and requirement levels.

3.8.1 The following additional information should be included in the test report when qualifying to a specification which does not specify materials and/or plating thickness. Only those items not included in the specification shall be reported.

3.8.1.1 Plastic (generic type, color, glass content)

3.8.1.2 Contact material (CDA number)

3.8.1.3 Plating type and alloy, underplate, and thicknesses that were tested (actual data to be supplied in report)

3.8.1.4 Lubrication, if any (generic description)

3.8.1.5 Surface treatment, if any (generic description)

3.8.2 In the event a failure occurs, a failure report shall be issued and the qualifying agency notified. All specifics of the failure shall be recorded.

3.9 Sample distribution

The specimens shall be separated into groups according to the applicable test sequence. Each group shall be tested according to the conditions indicated.

3.10 Detail test procedures

Each test within a sequence shall reference the test procedure, test severities and requirements. In the event a specific test is required for which no established test procedure exists, said test shall be specified in the applicable referencing document.

3.11 Calibration

Calibration requirements shall be in accordance with ANSI-Z-540.

4 Recommended test sequence

4.1 The recommended minimum test plan flow diagram is shown in figure 1. The test plan as shown shall apply to all environmental classifications. The level of severity may change contingent on the application and/or classification involved. The applicable EIA-364 test procedures are listed in annex A.

4.2 The test sequences in figure 1 are recommended test sequences and may be modified by the referencing document for specific applications. Additional tests may be added to evaluate specific attributes that may be unique to the connector/socket class or application. Tests may be deleted in those instances where they may not be applicable to the application.

4.3 Contact resistance at rated current shall be used in those applications where the current levels are in excess of 100 milliamperes and the voltage levels are in excess of 3.0 volts.

4.4 Low level circuit resistance shall be used in those applications where the current levels are equal to or less than 100 milliamperes with the voltage level equal to or less than 3.0 volts and/or the product is used in conjunction with solid state logic.

4.5 Contact being monitored for electrical resistance shall be excluded from any test where voltages of 1.0 volts or greater may be applied (e.g., monitoring contact interruption, IR and/or DWV prior to measuring electrical resistance, etc.).

4.6 The referencing document shall specify if the test specimens are to be unmated after vibration, physical shock and salt spray for visual examination. If not specified, the test samples shall remain mated.

4.6.1 In performing failure mode analysis, specimens may remain mated, then potted and sectioned if so specified followed by examination.

4.7 One of two humidity tests shall be specified, steady state humidity or temperature cycling with humidity (preferred). Unless otherwise specified, insulation resistance shall be measured within 1 hour to 2 hours of removal from the test chamber.

4.8 Unless otherwise specified, when test boards are used, they shall be double sided, 1.59 mm (0.062 in) thick, glass epoxy, FR-4 with plated through holes.

4.8.1 When traces are involved, they shall be properly sized to minimize possible current heating effects. DWV and IR test shall not be performed on specimens mounted to test boards with traces.

4.8.2 DWV and IR requirements may have to be modified in the event that these tests are required with specimens mounted to test boards (without traces).

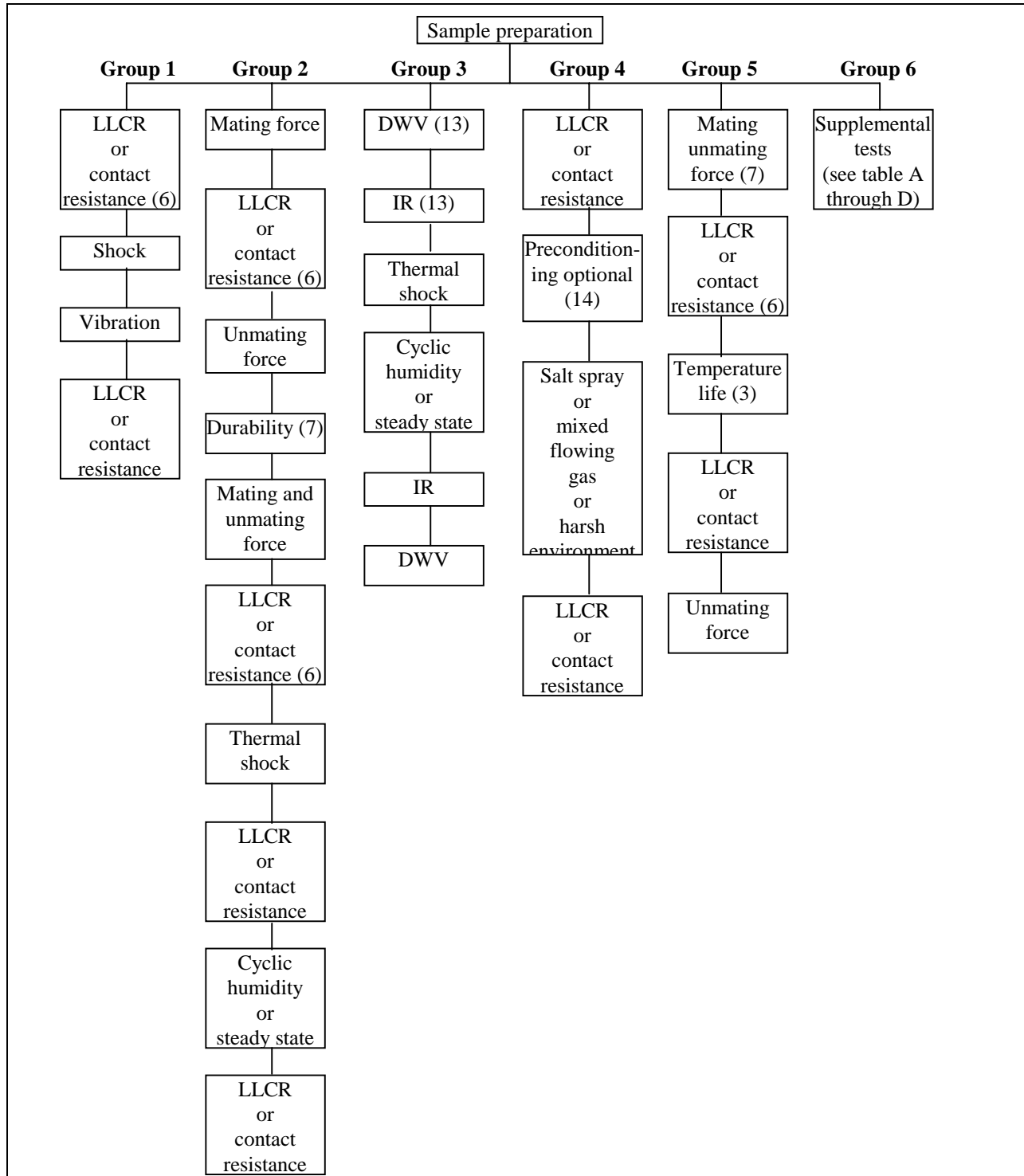
4.8.3 Test boards may have to be adequately protected when tested in humid environments under powered conditions.

4.8.4 The length of the test board shall be equal to the length of the test specimen plus 12.7 mm (0.50 in) minimum on each side.

4.8.4.1 The width of the test board shall equal the width of the test specimen plus 12.7 mm (0.50 in) minimum on each side.

4.8.4.2 For right angle terminations, the test board shall extend a minimum of 12.7 mm (0.50 in) from the appropriate row of terminations.

4.9 Fixturing for vibration and shock testing shall be defined in the referencing document.



NOTE — See notes for additional guidance. The numbers in () refer to specific notes following.

Figure 1 – Minimum test plan flow diagram

NOTES

- 1 Sample size, see table 3

Table 3 – Sample size

Sample size	Description
Test group 1	Four connector pairs (two for electrical resistance and two for monitoring contact interruptions)
Test group 2 – 5	Two specimens each test group
Test group 6	To be specified in the referencing document

- 2 The flow diagram as shown in figure 1 shall be considered as minimum for each environmental class. Additional tests or test groups may be required and shall be as specified in the referencing document. The levels of severity may differ contingent on the environmental class or application involved.
- 3 Temperature life may be performed with or without an electrical load being applied. It is recommended that for power applications where the current levels are in excess of 1.0 ampere, the use of an electrical load should be considered for inclusion. In this instance or unless otherwise specified, all positions shall have the load applied in accordance with EIA-364-17.
- 4 Test group 2 and 3: Cyclic humidity is preferred.
- 5 Test group 4: If more than one environment is required, each environment shall have its own independent sequence with its own test specimens.
- 6 If both contact resistance and low level circuit resistance are required, they shall be performed on different contact positions. In no instance shall they be performed on the same positions. Contingent on the number of positions within a specimen, additional specimens may have to be added to fulfill attribute monitoring; see 3.2.2.
- 7 For durability, mating/unmating force testing, applicable hardware, accessories and the like may be removed from specimens.
- 8 All test specimens for groups 1, 2, 4, 5 and 6 (as applicable) shall also be tested in a terminated or printed circuit board mounted state. Test group 3 shall be performed in an unmated, unterminated or unmounted state.
 - 8.1 For connectors with crimp terminations used with rear sealing grommets, test group 3 may be performed in a terminated (crimped) state.

- 9 The following information shall be included in the test report:
- Test board description,
 - Conductor size and type used (AWG and insulation) including number of strands,
 - Crimp tools used,
 - Termination technique and/or process used,
 - Additional special preparation performed.
- 10 See 4.1 through 4.9 for additional information. See annex A for applicable EIA-364 test procedure number.
- 11 The following schematics and test setups shall be described in the referencing document for each specimen configuration.
- Voltage and current probe placement for resistance measurements,
 - Vibration/shock fixture or setup,
 - Temperature probe and placement when used.
- 12 Visual examination shall be performed on the test specimens initially and after each environmental and stress test. Unless otherwise specified, unmating of the test specimens shall not be permitted until completion of the test sequence.
- There shall be no evidence of physical damage, swelling, blistering, distortion, etc. of the test specimens that prevents mechanical or electrical operation. Additional specific requirements, if required, shall be specified in the referencing document.
- 13 Unless otherwise specified, IR and/or DWV shall be tested between the closest spaced contacts (adjacent and/or between rows). DWV shall be performed at sea level and altitude for class A1.0 (aircraft).
- Six contact pairs or 25% of the positions whichever is greater shall be tested per specimen.
- In the event that hardware and/or metal shells are used, the test shall also be performed between the metal accessories and the contacts closest to them in accordance with EIA-364-20 and/or EIA-364-21.
- 14 Unless otherwise specified in the referencing document, preconditioning shall be defined as 25 mating and unmating cycles for connectors and 5 for sockets.

5 Supplemental tests

The following tables list tests that are considered supplemental to the recommended test sequences. The tests, as shown, are recommended for inclusion as separate test groups as applicable and are not necessarily to be performed in a sequential manner unless so indicated or as added to the test sequences of figure 1. Only those specific tests of interest should be chosen. For additional test that may be required, see annex A listing all test procedures and applicable cross-reference.

Table 4 – All environmental classes, additional tests

Test	EIA-364 test procedure number	Specimen size
Current carrying capacity	70	One specimen mating pair
Normal force	04	Five contacts
Porosity	53	Ten contacts/style
Solvent resistance	11	Two specimens (unmated)
Capacitance	30	Ten pairs each spacing
Contact retention	29	Ten contacts/style
Inductance	33 or 69	Ten contacts/style
Impedance	67	Ten contacts/style
Corrosivity	82	Five specimens (unmated)
Maintenance aging ¹⁾	24	20% or 3 positions minimum
Contact Insertion and removal forces ¹⁾	05	20% or 3 positions minimum
NOTES		
1) For connectors with crimp removable contacts.		
2) Flammability and fungus testing, need not be performed if applicable material certifications are supplied. In the event said certifications are not available, said tests shall be performed in accordance with the applicable procedures for flammability (EIA-364-81 or UL 490) and fungus (ASTM G 21).		

Table 5a – Connector accessories (strain reliefs, hoods, cable clamps, etc.)

Test	EIA-364 test procedure number
Cable pullout (cable clamps)	38
Coupling thread strength (circular)	TBD
External bending moment (circular)	43
Safety holes	TBD
Impact	42
Operating force	TBD
Cover chain, tensile strength	TBD
Cable flexing	41

Table 5b – Connector accessories (when metal shells are used)

Test	EIA-364 test procedure number
Magnetic permeability	54
Shell-to-shell conductivity	83
Insert retention	35
NOTES	
1 Shell-to-shell conductivity is recommended to be performed after each applicable environmental exposure.	
2 TBD indicates no existing EIA-364 test procedure exists within this document. The procedures for these tests shall be specified in the referencing document.	

Table 6 – Environmental classes 3.0, A1.0, A2.0 and A5.0

Test	EIA-364 test procedure number
Acceleration (missile and A5.0)	01
Air leakage (sealed)	02
Altitude immersion (A1.0 and A5.0)	03
Fluid immersion (A1.0, A2.0 and A5.0)	10
Restricted entry (A1.0 and A2.0)	12
Ozone (A1.0 and A5.0)	14
Contact strength (A1.0 and A5.0)	15
Probe damage (A1.0 and A5.0)	25
Firewall flame (A1.0)	45
Sand and dust (3.0 and A1.0)	50
Ice resistance (3.0 and A1.0)	51
Low temperature (A1.0 and A5.0)	59
Lightning strike (A1.0)	75
Outgassing (A5.0)	ASTM E 595

Table 7 – Termination tests

Termination	Test	EIA-364 test procedure number	Specimen size
Crimp	Crimp tensile	08	20 contacts/wire size/wire type
	Crimp deformation	07	10 contacts/wire size/wire type
	Current cycling	55	10 contacts/wire size/wire type
	Current carrying capacity	70	1 contact/wire size/wire type
Solder	Solderability	52	20 contacts
	Resistance to soldering heat	56	2 connectors
	Terminal strength	62	10 contacts
	Current cycling	55	10 contacts/wire size/wire type
Solderless wrap	Stripping force	16	10 contacts
	Unwrapping force	47	10 contacts
	Terminal strength	62	10 contacts
	Gas tight	36	10 contacts
IDC	Cable flexing	40	One connector
	Reusability	73	TBD
Compliant pin	Hole conditioning	TBD	TBD
	Plated through hole integrity	TBD	TBD

Annex

A Test comparison cross-reference EIA-364, IEC-512 and MIL-STD-1344 (informative)

Table A.1 – EIA-364, IEC-512 and MIL-STD-1344 cross-reference

Test	EIA-364 test procedure number	IEC 512 test procedure number	MIL-STD-1344 test method number
Acceleration	01	6a	2011
Air leakage	02	14d (P)	1008
Altitude immersion	03	14e (P)	1004
Normal force	04	None	None
Contact insertion, release and removal force	05	15d	2012
Contact resistance	06	2b	3004
Contact axial concentricity	07	16g	2001
Crimp tensile strength	08	16d	2003
Durability	09	9a	2016
Fluid immersion	10	19c	1016
Resistance to solvents	11	None	None
Restricted entry	12	16b	None
Mating and unmating forces	13	13b	2013
Ozone exposure	14	None	1007
Contact strength (bend)	15	16c	None
Stripping force (wrapped connectors)	16	16k	None
Temperature life with or without electrical load	17 (*)	9b	1005
Visual	18	1a	None
Torsional insert retention	19	15c	None
Withstanding voltage	20	4a	3001
Insulation resistance	21	3a	3003
Simulated life	22	None	1015
Low level contact resistance	23	2a	3002
Maintenance aging	24	9d	2002
Probe damage	25	16a	2006
Salt spray	26	11f	1001
Mechanical shock (specified pulse)	27 (*)	6c	2004
Vibration	28 (*)	6d	2005
Contact retention	29 (*)	15a	2007

Table A.1 – EIA-364, IEC-512 and MIL-STD-1344 cross-reference (continued)

Test	EIA-364 test procedure number	IEC 512 test procedure number	MIL-STD-1344 test method number
Capacitance	30	22a	None
Humidity	31 (*)	11c and 11m	1002
Thermal shock (temperature cycling)	32 (*)	11d	1003
Inductance (100 nH - 100mH)	33	None	None
Insert retention	35	15b	2010
Gas tight characteristics	36	None	None
Contact engagement and separation force	37 (*)	13a	2014
Cable pull-out	38	17c	2009
Hydrostatic	39 (*)	None	1006
Crush	40	None	2008
Cable flexing	41	None	2017
Impact	42 (*)	7b	2015
Cable clamping (bending moment)	43	17a	None
Corona	44 (*)	4b	None
Firewall flame	45	20b	1009
Microsecond discontinuity	46	2e	None
Conductor unwrapping (solderless wrapped connectors)	47	16m	None
Metallic coating thickness	48	None	None
Not assigned	49		
Dust (fine sand)	50	11h	None
Ice resistance	51	None	None
Solderability of contact terminations	52 (*)	12a	None
Nitric acid vapor	53	None	1017
Magnetic permeability	54	None	3006
Current cycling	55	9e	None
Resistance to soldering heat	56 (*)	12d	None
Temperature life (with mechanical loading for connectors with removable contacts)	58	None	None
Low temperature	59	11j	None
Porosity of contact finishes	60	None	None
Terminal strength	62	16f	None
Mixed flowing gas	65	11g	None
EMI shielding effectiveness	66	23c (P)	3008

Table A.1 – EIA-364, IEC-512 and MIL-STD-1344 cross-reference (continued)

Test	EIA-364 test procedure number	IEC 512 test procedure number	MIL-STD-1344 test method number
Transmission line reflections	67 (P)	23d (P)	None
Actuating mechanism	68	8c	None
Inductance (10 nH - 100nH)	69	None	None
Temperature rise versus current	70	5a and 5b	none
Solder wicking (wave solder technique)	71	None	2019
Hydrolytic effects	72 (P)	None	None
IDC reusability	73 (P)	None	None
Corona	74 (P)	None	None
Lightning strike	75	None	None
Toxicity	76 (P)	None	None
Solder cup strength	77 (P)	None	None
Cavity-to-cavity leakage bonding integrity	78	None	None
Insert bond strength	79	None	None
Low frequency shield strength	80 (P)	None	None
Combustibility characteristics of connector housings	81	None	None
Corrosivity of plastics	82	None	None
Shell-to-shell and shell-to-bulkhead resistance	83	2f	3007
Not assigned	84		
Wear and mechanical damage of contact finishes	85	None	None
Polarizing/coding key overstress	86	13e	None
Nanosecond event detection	87	None	None
Residual magnetism	88	24a	None
Space applications of connectors	89	None	None
Crosstalk ratio	90	25a (P)	None
Dust	91	None	None
Wire bending for insulation displacement contacts	92	None	None
Repeated wire connection and disconnection for insulation displacement contacts	93	None	None

Table A.1 – EIA-364, IEC-512 and MIL-STD-1344 cross-reference (continued)

Test	EIA-364 test procedure number	IEC 512 test procedure number	MIL-STD-1344 test method number
Transverse wire extraction force for insulation displacement contacts	94	None	None
Full mating and mating stability	95	None	None
Plating hole integrity	96 (P)	None	None
Housing panel retention	97	None	None
Housing locking mechanism strength	98	None	None
Gage location and retention	99	None	2018
Marking permeability	100	None	None
Attenuation	101	25b (P)	None
Rise time degradation	102	25c (P)	None
Propagation delay	103	25d (P)	None
Flammability	104	None	1012
Altitude – low temperature	105	None	1011
Standing wave ratio (SWR)	106	None	3005
Eye pattern	107	None	None
Impedance, reflection coefficient, return loss, and VSWR	108	25e (P)	None
Inductance (1 nH - 10 nH)	109 (P)	None	None
Environmental test methodology for assessing the performance of electrical connectors and sockets used in business office applications	1000.01	None	None
NOTES			
1 An asterisks (*) indicates that there are known differences between the EIA and IEC test procedures.			
2 A (P) indicates that the EIA test procedure has been proposed or is under development.			

B Test comparison expanded cross-reference EIA-364 and MIL-STD-1344 (informative)

Table B.1 – EIA-364 to MIL-STD-1344 expanded cross-reference

EIA-364		MIL-STD-1344	
Test procedure	Condition ¹⁾	Test method	Condition ¹⁾
001A	Condition A	2011.1	Condition A
001A	Condition B	2011.1	Condition B
001A	Condition C	2011.1	Condition C
001A	Condition D	2011.1	Condition D
002C	Direct	1008	Direct
003B	Direct	1004.1	Direct
005B	Direct	2012.1	Direct
006A		3004.1	
007B	Condition A	2001.1	Condition A
007B	Condition B	2001.1	Condition B
007B	Condition C	2001.1	Condition C
007B	Condition D	2001.1	Condition D
008B	Direct	2003.1	Direct
009C	Direct	2016	Direct
010	-	1016	Condition K (Deleted)
010	Condition A	1016	Condition A
010	Condition B	1016	Condition C
010	Condition C	1016	Condition D
010	Condition D	1016	Condition E
010	Condition E	1016	Condition F
010	Condition F	1016	Condition G
010	Condition G	1016	Condition H
010	Condition H	1016	-
010	Condition I	1016	Condition I
010	Condition J (Deleted)	1016	Condition J (Deleted)
010	Condition K	1016 Notice 5	Condition J
010	Condition K	1016	Condition L
010	Condition L	1016	Condition B
010	Condition Z	1016	-
013B	Direct	2013.1	Direct
014B	Direct	1007.1	Direct
017B	Condition 1	1005.1	Condition 1
017B	Condition 10	1005.1	-

Table B.1 – EIA-364 to MIL-STD-1344 expanded cross-reference (continued)

EIA-364		MIL-STD-1344	
Test procedure	Condition ¹⁾	Test method	Condition ¹⁾
017B	Condition 11	1005.1	-
017B	Condition 2	1005.1	Condition 2
017B	Condition 3	1005.1	Condition 3
017B	Condition 4	1005.1	Condition 4
017B	Condition 5	1005.1	Condition 5
017B	Condition 6	1005.1	Condition 6
017B	Condition 7	1005.1	Condition 7
017B	Condition 8	1005.1	Condition 8
017B	Condition 9	1005.1	Condition 9
017B	Method A	1005.1	-
017B	Method B	1005.1	-
017B	Method C	1005.1	Direct
017B	Test time condition A	1005.1	Test time condition A
017B	Test time condition B	1005.1	Test time condition B
017B	Test time condition C	1005.1	Test time condition C
017B	Test time condition D	1005.1	Test time condition D
017B	Test time condition E	1005.1	Test time condition E
017B	Test time condition F	1005.1	Test time condition F
017B	Test time condition G	1005.1	Test time condition G
017B	Test time condition H	1005.1	Test time condition H
020B	Condition I	3001.1	Condition I
020B	Condition II	3001.1	Condition II
020B	Condition III	3001.1	Condition III
020B	Condition IV	3001.1	Condition IV
020B	Condition V	3001.1	Condition V
020B	Condition VI	3001.1	Condition VI
020B	Condition VII	3001.1	-
020B	Condition VIII	3001.1	-
020B	Method A	3001.1	Need to specify
020B	Method B	3001.1	Need to specify
020B	Method C	3001.1	Need to specify
020B	Method D	3001.1	Need to specify
021B	Direct	3003.1	Direct
022A	Level I	1015	Level I
022A	Level II	1015	Level II

Table B.1 – EIA-364 to MIL-STD-1344 expanded cross-reference (continued)

EIA-364		MIL-STD-1344	
Test procedure	Condition ¹⁾	Test method	Condition ¹⁾
022A	Level III	1015	Level III
022A	Level IV	1015	Level IV
022A	Limit I	1015	Limit I
022A	Limit II	1015	Limit II
022A	Limit III	1015	Limit III
022A	Limit IV	1015	Limit IV
023A	-	3002.1	-
024B	Direct	2002.1	Direct
025C	Direct	2006.2	Direct
026A	Condition A	1001.1	Condition A
026A	Condition B	1001.1	Condition B
026A	Condition C	1001.1	Condition C
026A	Condition D	1001.1	Condition D
027B	Condition A	2004.1	Condition A
027B	Condition B	2004.1	Condition B
027B	Condition C	2004.1	Condition C
027B	Condition D	2004.1	Condition D
027B	Condition E	2004.1	Condition E
027B	Condition F	2004.1	Condition F
027B	Condition G	2004.1	Condition G
027B	Condition H	2004.1	Condition H
027B	Condition I	2004.1	Condition I
027B	Condition J	2004.1	-
027B	Condition K	2004.1	-
027B	Condition L	2004.1	-
028D	Condition I	2005.1	Condition I
028D	Condition II	2005.1	Condition II
028D	Condition III	2005.1	Condition III
028D	Condition IV	2005.1	Condition IV
028D	Condition V	2005.1	Condition V
028D	Condition VI	2005.1	Condition VI
028D	Condition VII	2005.1	-
029B	Direct	2007.1	Direct
031A	Condition A	1002.2	Condition A
031A	Condition B	1002.2	Condition B
031A	Condition C	1002.2	Condition C

Table B.1 – EIA-364 to MIL-STD-1344 expanded cross-reference (continued)

EIA-364		MIL-STD-1344	
Test procedure	Condition ¹⁾	Test method	Condition ¹⁾
031A	Condition D	1002.2	Condition D
031A	Method I	1002.2	-
031A	Method II	1002.2	Type I
031A	Method III	1002.2	-
031A	Method IV	1002.2	Type II
031A	Method V	1002.2	Type III
032B	Condition I, 100 cycles	1003.1	Condition A-3
032B	Condition I, 25 cycles	1003.1	Condition A-1
032B	Condition I, 5 cycles	1003.1	Condition A
032B	Condition I, 50 cycles	1003.1	Condition A-2
032B	Condition II	1003.1	-
032B	Condition III	1003.1	-
032B	Condition IV	1003.1	-
032B	Condition V	1003.1	-
032B	Condition VI	1003.1	-
032B	Condition VII	1003.1	-
032B	Condition VIII	1003.1	-
035B	Direct	2010.1	Direct
037B	Direct	2014	Direct
038B	Condition A	2009.1	Condition B
038B	Condition B	2009.1	Condition C
038B	Condition C	2009.1	Condition D
038B	Condition D	2009.1	Condition E
038B	Condition E	2009.1	Condition A
039B	Condition A	1006.1	Condition A
039B	Condition B	1006.1	Condition B
039B	Condition C	1006.1	Condition C
039B	Condition D	1006.1	Condition D
039B	Procedure 1	1006.1	Procedure 1
039B	Procedure 2	1006.1	Procedure 2
039B	Procedure 3	1006.1	Procedure 3
040B	Direct	2008.1	Direct
041C	Procedure I	2017	Condition I
041C	Procedure II	2017	Condition II
042B	Direct	2015	Direct
045	Direct	1009	Direct

Table B.1 – EIA-364 to MIL-STD-1344 expanded cross-reference (continued)

EIA-364		MIL-STD-1344	
Test procedure	Condition ¹⁾	Test method	Condition ¹⁾
053A	Direct	1017	Direct
054A	Direct	3006	Direct
066	-	3008	-
071A	Direct	2019	Direct
083	Direct	3007	Direct
099	Direct	2018	Direct
104	Direct	1012	Direct
105	Direct	1011	Direct
106	Direct	3005	Direct

NOTE — Direct in the condition column means that the method in MIL-STD-1344 and EIA 364 are in harmony; and there are no sub methods, conditions, etc. in the document.

EIA Document Improvement Proposal

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