

Item No.	Section of Change	Paragraph to be Changed	Description of Change	Justification for Change	Page(s) Changed
1	Forward	2 Comment	<p>Change the ASSIST web address From: http://assist.daps.dla.mil To: https://assist.daps.dla.mil</p> <p>Change the e-mail address From: STD883@dsc.dla.mil To: STD883@dlamil.</p>	<p>DAPS is now using Secure Socket. DAPS Services</p> <p>Update information.</p>	ii
2	Main Body	2.2 Government documents.	<p>In the "Copies of these documents are available . . ." section delete second web address for DAPS.</p> <p>Change the ASSIST web address From: http://assist.daps.dla.mil/quicksearch/ To: https://assist.daps.dla.mil/quicksearch/</p>	<p>Required by MIL-STD-962. DSCC</p> <p>DAPS is now using Secure Socket. DAPS Services</p>	3
3	Main Body	2.3 Non-government publications.	<p>For the ISO documents:</p> <p>Change governing body: From: Institute of Environmental Sciences and Technology To: International Organization for Standardization</p> <p>Web info: From: http://iest.org To: http://iso.org</p> <p>Contact Address: ISO, 1, ch. de la Voie-Creuse Case postale 56, CH-1211 Geneva 20, Switzerland.</p>	<p>Information for this document's governing body has changed as indicated. DSCC</p>	4

This is the summary of changes to MIL-STD-883 for Revision H

February 28, 2010

4.	Main Body	2.3 Non-government publications.	Under ANSI listings Change From: ANSI/NCSL Z540-1 Calibration Laboratories and Measuring and Test Equipment To: ANSI/NCSL Z540.3 Requirements for the Calibration of Measuring and Test Equipment.	This is the correct replacement for the withdrawn document. DSCC	4
5	Main Body	2.3 Non-government publications.	Under EIA listings Change Add EIA/JESD22-B116, Wire Bond Shear Test	This document has been added as a reference to TM-2011. DSCC	4
6	Main Body	2.3 Non-government publications.	Under EIA listings Change From: EIA-557-A To: EIA-557	To allow use of the latest revision document. DSCC	4
7	Main Body	2.3 Non-government Publications.	Under American Society For Testing and Materials (ASTM): Change ASTM E 526 to ASTM F 526 Add: ASTM E 801, Standard Practice for Controlling Quality of Radiological Examination of Electronic Devices. Replace referenced thermal expansion document: From: ASTM D 3386 To: ASTM E 831	Editorial Correction This document is referenced in TM 2012 DSCC ASTM D 3386 has been canceled and is superseded by ASTM E 831. DSCC	4-5
8	Main Body	2.4 Order of precedence.	Add these words at the beginning of the section: "Unless otherwise noted herein or in the contract,"	Required by MIL-STD-962. DSCC	5
9	Main Body	3.1.12 Calibration	Change the referenced document From: ANSI/NCSL Z540-1 To: ANSI/NCSL Z540.3	This is the correct replacement for the withdrawn document. DSCC	7
10	Main Body	4.5.1 Calibration requirements.	Change the referenced document From: ANSI/NCSL Z540-1 To: ANSI/NCSL Z540.3	This is the correct replacement for the withdrawn document. DSCC	12

11	Main Body	4.7 Recycled, recovered, and environmentally preferable materials.	Add this new section to recommend the use of environmentally preferable materials.	Required by MIL-STD-962. DSCC	14
12	Main Body	Concluding Material	Change Custodians List From: Air Force - 11 To: Air Force - 85. Change Review activities list as follows: Remove: Navy OS and TD Add: Air Force 03 Remove the Concluding Materials and relocate the information to the last page of document.	Air Force letter from 403 SCMS/GUED dated 27 May 2008. USAF Current information from SD-1. DSCC Required by MIL-STD-962. DSCC	17
13	Main Body	Concluding Material	Change the ASSIST web address From: http://assist.daps.dla.mil To: https://assist.daps.dla.mil	DAPS is now using Secure Socket. DAPS Services	17
14	TM 1005 Steady-state Life	Figure 1005-3	In the NOTE Change "connect" to "connected"	Grammer correction DSCC	7
15	TM 1014 Seal	3.1.1.2 Test condition $A_{2,flexible}$ method.	For the formula for R_1 , the description of variables in the formula, change the M_A value From 28.7 To 28.96	Examination of the values shows a difference with MIL-STD-750. This change makes the two documents agree. Confirmation with NIST documentation shows the new value to be correct. DSCC	6
16	TM 1014 Seal	Appendix A	Add this new appendix for Cumulative Helium Leak Test to be an optional procedure.	This procedure is being used by some to respond to semiconductor device testing. This will allow those already having the equipment to use it for microcircuits. DSCC	17-20

This is the summary of changes to MIL-STD-883 for Revision H

February 28, 2010

17	TM 1015 Burn-in Test	3. Procedure	Change the referenced specification From: MIL-I-38535 To: MIL-PRF-38535	Technical Correction DSCC	1
18	TM 1016 Life/Reliability Characterization Tests	1. Purpose	Change the failure rate symbol From: (θ) To: (λ)	Editorial Correction DSCC	1
19	TM 1016 Life/Reliability Characterization Tests	3.6.1 Life distribution analysis	Change the failure rate symbol From: (θ) To: (σ)	Editorial Correction DSCC	4
20	TM 1018 Internal Gas Analysis	Entire method.	Replace this method with the one that has been added to MIL-STD-750 which has just been rewritten.	Work has been done to revise the test method for MIL-STD-750 to incorporate improvements. DSCC personnel believe its accurate and beneficial for MIL-STD-883. Test labs also request a single test method to operate from for ease of application. DSCC	1-4
21	TM 1019 Ionizing Radiation (Total Dose) Test Procedure	3.10. Post-irradiation procedure	Add provisions for the shipping of test units between manufacturers and test labs using dry ice. Extend the allowed time for the post irradiation exposure electrical test from 1 hour to 72 hours in such a case.	Is necessary because many manufacturers do not have irradiation facilities and need to send parts out for services. JEDEC JC-13.4	5
22	TM 1021 Dose Rate Upset Testing of Digital Microcircuits	2.7 General purpose test equipment.	Change the referenced document From: ANSI/NCSL Z540-1 To: ANSI/NCSL Z540.3	This is the correct replacement for the withdrawn document. DSCC	3
23	TM 1023 Dose Rate Response and Threshold for Upset	2.2. Dosimetry System	Change referenced document From: ASTM E 526 To: ASTM F 526	Editorial Correction. DSCC	2
24	TM 2001 Constant Acceleration	3 Procedure	Add a statement or indicator explaining that the table values for Stress Levels (g) are absolute minimums with no lower tolerances.	Based on customer questions, confusion needs clarified. OEM	1

This is the summary of changes to MIL-STD-883 for Revision H

February 28, 2010

25	TM 2002 Mechanical Shock	3 Procedure	Add a statement or indicator explaining that the table values for g level (peak) are absolute minimums with no lower tolerances.	Based on customer questions, confusion needs clarified. OEM	1
26	TM 2003 Solderability	2.3 Test Method	Add Section: 2.3.1 <u>Solder dipping of gold plated terminations.</u>	J-STD-002 has no provisions for this and is necessary. JEDEC request	1
27	TM 2003 Solderability	2.3 Test Method	Add a Note to clarify that the sampling count required refers only to actual leads used and not to all leads of each device used in the testing.	Based on customer questions, confusion needs clarified. DSCC	1
28	TM 2004 Lead Integrity	3.2.1 Optional procedure for fine pitch/small leads	In the first sentence add a comma (,) after the words "by the following formula". In the second sentence change From: grams/lb. Where K is To: grams/lb, where K is	Editorial Correction. DSCC	3
29	TM 2009 External Visual	3.3.6 Ball/column Grid Array leads	Add new section for failure criteria for BGA tests. Renummer the subsequent paragraphs accordingly. Renummer subsequent paragraphs appropriately.	G-12 request. Based on Area Array Packaging Issues being studied by them to generate criteria not currently provided in the method. Task Group #G0309	2-3
30	TM 2010 Internal Visual (Monolithic)	3 Procedure Part c, Inspection Control	Change the symbol in the phrase From: 0.5 μ m or greater To: 0.5 μ m or greater In 2 places	Editorial Correction. DSCC	2
31	TM 2010 Internal Visual (Monolithic)	3.1.1.6 Metallization bridging	In part b, (Condition A, only) add limits for shooting metal as not greater than 1.0 mils.	Technical correction requested by aerospace. Aerospace	17
32	TM 2011 Bond Strength (Destructive Bond Pull Test)	3 Procedure	Add a statement at the end of the paragraph saying the following: The stress required to achieve bond failure shall be observed and the physical location of the point of failure shall be recorded as being one of the listed categories (see 3.2.1).	The original TM had this statement and is meant to form part of the purpose for testing. The statement is added back in to make this more clearly expressed. OEM	1

33	TM 2011 Bond Strength (Destructive Bond Pull Test)	3.1.3 Test Condition D - Wire pull (double bond)	Add direction for hook placement in the bond loop and pulling instructions.	JEDEC JC-13.5 Task Group. Letter presented to DSCC on 24 Jan 2008. Ballot Initiative No. JC-13-08-27-07	2
34	TM 2011 Bond Strength (Destructive Bond Pull Test)	3.1.3 Test condition D – Wire pull (Double Bond)	Change pull location From: center of the wire . . . To: between midspan and loop apex . . .	JEDEC JC-13.5 Task Group. Letter presented to DSCC on 24 Jan 2008. Ballot Initiative No. JC-13-08-27-07	2
35	TM 2011 Bond Strength (Destructive Bond Pull Test)	Figure 2011-1	Add a new Figure 2011-1. <u>Bond pull hook placement</u> location. Renumber subsequent figures accordingly..	JEDEC JC-13.5 Task Group. Letter presented to DSCC on 24 Jan 2008. Ballot Initiative No. JC-13-08-27-07	5 1-7
36	TM 2011 Bond Strength (Destructive Bond Pull Test)	3.1.7 Wire Ball Bond Shear.	Add a new section for Wire Ball Bond Shear tests with direction to follow the procedures in accordance with <u>EIA/JESD22-B116, Wire Bond Shear Test Method.</u>	Current standard lacks direction in this area. This will provide a common method. Federal Agency (NIST)	2
37	TM 2012 Radiography	3.3.1 Non-film techniques, when specified.	Delete the phrase “when specified” and allow for the use of Real Time X-ray.	Real Time X-ray is a viable alternative to film techniques when applicable precautions are observed. Manufacturer	2

38	TM 2012 Radiography	3.7 Personnel safety precautions	Change the referenced documents.	<p>This paragraph refers to the National Institute of Standards and Technology (NIST)</p> <p><u>Handbook 76</u> – X-ray Protection and to the NIST</p> <p><u>Handbook 73</u> – Protection Against Radiation From Sealed Gamma Sources.</p> <p>These documents have been superseded by the National Council on Radiation Protection and Measurements:</p> <p><u>Report Number 102</u> – Medical X-ray, Electron Beam and Gamma Ray Protection for Energies Up to 50MeV and</p> <p><u>Report Number 040</u> – Protection Against Radiation from Brachytherapy Sources.</p> <p>DSCC</p>	3
39	TM 2017 Internal Visual (Hybrids)	3 c Inspection control.	<p>Change the symbol in the phrase</p> <p>From: 0.5 μm or greater</p> <p>To: 0.5 μm or greater</p> <p>In 3 places</p>	<p>Editorial Correction.</p> <p>DSCC</p>	1
40	TM 2017 Internal Visual (Hybrids)	3.f (13) Foreign material.	<p>In the first sentence, change the word “of” to the word “or” such that it reads - “. . . any material that is foreign to the microcircuit or any non-foreign material that is displaced . . .”.</p>	<p>Editorial Correction.</p> <p>DSCC</p>	2
41	TM 2017 Internal Visual (Hybrids)	3.1.5.8 General.	<p>In part b, (Class K only) add limits for shooting metal as not greater than 1.0 mils</p>	<p>Technical Correction</p> <p>Aerospace</p>	16

42	TM 2018 Scanning Electron Microscope (SEM) Inspections	Figure 2018.-16 Steep passivation step (MOS) (accept)	Rotate this figure by 180 degrees.	Technical Correction; this figure is upside down. Laboratory	27
43	TM 2019 Die Shear Strength	3.2 Failure criteria	In sections 3.2.1 and 3.2.2, add further explanation for how to interpret these failures.	Attempting to clarify the procedure for determining what constitutes a lot failure and how to count failed devices. Manufacturer	2
44	TM 2019 Die Shear Strength	Figure 2019-4, Die shear strength criteria (minimum force versus die attach area).	In example 2 below the chart, (see example in the Alternately section.) Change the calculated minimum forces required: From .4 Kg, .5 Kg, and .8 Kg To: .04, .05 and .08 Kg respectively. And From: 64 Kg, 80 kg, and 128 kg To: .64 kg, .80 kg, and 1.28 kg, respectively.	Editorial Correction. Numbers shown do not match the physics of the method. Manufacturer	5
45	TM 2020 Particle Impact Noise Detection Test	3.5 Screening lot acceptance	Add a note saying: If the lot count is 100 devices or fewer, or reaches 100 devices or fewer following a run, then no failures are allowed for any subsequent run to be acceptable.	Attempting to clarify the procedure for determining what constitutes a lot failure and how to count failed devices. DSCC	3
46	TM 2023 Nondestructive Bond Pull	3 Procedure.	Add direction for hook placement in the bond loop and pulling instructions. Add reference to view Figure 2023-1 which is a new figure.	JEDEC JC-13.5 Task Group. Letter presented to DSCC on 24 Jan 2008. Ballot Initiative No. JC-13-08-27-07	2
47	TM 2023 Nondestructive Bond Pull	3.1 Failure criteria.	Change the referenced figure From: Figure 2011-1 To: Figure 2011-2	A new figure 1 was added to TM 2011, other figures were renumbered. DSCC	2
48	TM 2023 Nondestructive Bond Pull	3.2.1 Alternative procedure.	Change the referenced document: From: EIA-557-A To: EIA-557	To allow use of the latest revision document. DSCC	3

This is the summary of changes to MIL-STD-883 for Revision H

February 28, 2010

49	TM 2023 Nondestructive Bond Pull	Figure 2023-1 Bond pull hook placement location	Add this new figure as figure 1, renumber remaining figures accordingly. Change referenced figure numbers to agree with renumbered figures.	JEDEC JC-13.5 Task Group. Letter presented to DSCC on 24 Jan 2008. Ballot Initiative No. JC-13-08-27-07 See paragraphs 3.1.	7, 8, and 10 2-3
50	TM 2030 Ultrasonic Inspection of Die Attach	All	Replace this test method with one like that in MIL- STD-750.	JEDEC G-12 Task Group	1-6
51	TM 3015 Electrostatic Discharge Sensitivity Classification	3.4 Pin combination to be tested	Add a note that states: "As an option, a shunt resistance of 10k ohms or higher may be used to ease the pre-pulse voltage phenomenon that occurs, especially in high-impedance pins. The shunt resistance will be placed between the pin to be stressed (Terminal A) and the system ground (Terminal B) and as long as it does not alter the HBM waveform specifications or the tester qualification, calibration and waveform verification. The shunt resistance can be placed in the HBM simulator or in the test fixturing system."	JEDEC to modify JESD22-A114 stating that normal HBM events may exhibit a voltage rise pre-pulse phenomenon, especially in high- impedance pins that use ESD protection designs with dV/dt trigger mechanisms. Ballot Initiative No. JC-14.1-05-405	3
52	TM 4004 Open Loop Performance	Figure 4004-3, Test setup for open loop gain, distortion and maximum output voltage swing.	Add labels as follows: For the node connection at the bottom of R_L label this as V_1 . For the protruding node connection to the top of R_L label this as V_2 .	These values are necessary readouts in compliance with paragraph 3.3 in the procedures. OEM	4

53	TM 5005. Qualification and Quality Conformance Procedures	Table IV, Group D (Package related tests)	<p>Add <u>Subgroup 9</u> and Note <u>14/</u> (as follows)</p> <ul style="list-style-type: none"> a. Soldering Heat per TM-2036 b. Seal per TM-1014 as applicable <ul style="list-style-type: none"> (1) Fine (2) Gross c. Visual per TM-2009 d. End-point electricals as specified in the applicable specification. <p>Quantity (accept number) is 3(0).</p>	<p>To comply with new Test Method 2036, and to agree with the latest revision of MIL-PRF-38535 (see TABLE V <u>Group D tests</u> on page 21 of MIL-PRF-38535).</p> <p>DSCC, et al.</p>	11
54	TM 5005 Qualification and Quality Conformance Procedures	Table IV, Group D (Package related tests)	<p>Add footnote <u>14/</u> stating: This test is performed at qualification/ re-qualification of design changes which may affect this test. The manufacturer shall determine for each package the applicable conditions from test method 2036 that are appropriate for the mounting conditions, and assure by testing, or through their assembly processes, that the part is subjected to an equivalent time/temperature stress.</p>	<p>To comply with new Test Method 2036, and to agree with the latest revision of MIL-PRF-38535 (see TABLE V <u>Group D tests</u> on page 21 of MIL-PRF-38535).</p> <p>DSCC, et al.</p>	12
55	TM 5005 Qualification and Quality Conformance Procedures	Table V, Group E (radiation hardness assurance tests)	<p>For subgroup 5 Single Event Effects (SEE), under Quantity/accept number change</p> <p>From: 4(0) devices/wafer To: 4(0) devices</p> <p>Add Note <u>10/</u> stating the following: "When single event effects (SEE) testing is specified in the purchase order or contract the test shall be performed during qualification and after any design or process change that may affect SEE response.</p>	<p>SEE testing is performed during initial qualification and after any design or process change that may affect SEE responses, but it is not done per each wafer.</p> <p>JEDEC JC-13.4</p>	13-14
56	TM 5007 Wafer Lot Acceptance	Table I, Wafer lot acceptance tests.	<p>Several changes, in particular to Test 2, Condition; Test 2, Limits; Test 3, Conditions; Test 5, Limits; and Test 6, Conditions.</p>	<p>JEDEC Task Group</p> <p>JC-13.2</p>	2-4

This is the summary of changes to MIL-STD-883 for Revision H

February 28, 2010

57	TM 5011 Evaluation and acceptance procedures for polymeric adhesives	3.6.1. Test equipment and testing facilities.	Change the referenced document From: ANSI/NCSL Z540-1 To: ANSI/NCSL Z540.3	This is the correct replacement for the withdrawn document. DSCC	6
58	Last page of Document	Concluding Material	Move the Concluding Material from the Main Body, Section 6, page 17 to the back (last page) of the document.	Required by MIL-STD-962. DSCC	N/A