

MIL-PRF-19500Pam3 Change Summary

Item No.	Paragraph	Description of Change	Justification for change
1.	2.1	MIL-STD-961 format correction	Editorial.
2.	2.3, C.2.2, and D.2.2	Remove Tech America listing and replace with applicable SAE or JEDEC listings.	Editorial.
3.	3.9	Added, " <u>Lead finish</u> . The lead finishes applicable to this specification sheet are listed on QML-19500 ."	Adds new available lead finish information.
4.	3.10.1	Added, "The manufacturer shall define and document the orientation of part marking for consistency."	Standardize part marking orientation for devices to mitigate risk of potentially being installed incorrectly.
5.	3.10.1.a	Added, "Pin 1 shall be indicated on devices with more than 2 leads."	Adds additional identification for proper device orientation.
6.	A.3.29.1	Removed a duplicate definition from revision P amendment 2, and modified original definition changing "base" to "header", and change "and lid." to "or lid."	Clarification. Lid isolation is applicable.
7.	A.3.30	Add "Power device" definition, "A diode with a power rating of 1 watt or higher or current rating of 1 Amp or larger, transistors with a power rating of 4 watts or larger, and MOSFETs with a power rating of 1 watt or larger."	Clarification.
8.	A.3.39.1	Add "targeted parameters" definition, "Parameters that consist of a min/max or range for the limit, specified in the specification sheet."	Clarification.
9.	D.2.2	Update Z540-1 reference to Z540.3.	Editorial.
10.	D.3.9.5	Add "Unless otherwise specified, failures in the process monitor do not count against PDA requirements."	Clarification.
11.	D.3.9.5.b	Add "See H.3.6.1 for bi-metallic bond restrictions."	Inform users that the use of bi-metallic bonds is not permitted unless necessary as stated in the slash sheet.

MIL-PRF-19500Pam3 Change Summary

12.	D.3.9.5.h Lot norm	Replace engineering evaluation/rational, with “engineering comment”.	Standardize the wording agreed to during the lot norm task group.
13.	D.3.9.5.h(3) Lot norm	“The manufacturer shall ensure that the lot’s mean and standard deviation is are consistent...”	Editorial
14.	D.3.9.5.h Lot norm	Add note “1/ Post HTRB hot and cold testing and lot norm analysis may be performed as part of screen 13b. All detail sheet post HTRB testing must be within specified test windows or if not specified be within 16 hours after removal of applied voltage in HTRB.”	Ensures post HTRB tests are performed as soon as possible following the standard flow. (Certain tests have shown to heal or test better when the parts are tested at a later time instead of directly after HTRB)
15.	D.3.9.5.l	Add addition of test method 2038 for US devices.	Clarification, to list new test method.
16.	D.3.9.5.n	Replace listed test methods with marking and base metal requirements.	Clarifies purpose and methodology of laser marking process monitor.
17.	D.3.11.2	Update Z540-1 reference to Z540.3.	Editorial.
18.	D.3.13.2.3 Strip and replate	Add test methods 1057, 1041, and 2071. Split into separate paragraph.	Additional tests ensure that the strip and replate process does not damage devices.
19.	E.2.2	Update Z540-1 reference to Z540.3.	Editorial.
20.	E.3.4	Add test method 2038 as a destructive test method.	Editorial.
21.	E.3.6.1	Replace “large lot” with “original lot”.	Clarification. Resubmission now uses double the original lot instead of double the large lot.
22.	E.3.7	Update Z540-1 reference to Z540.3.	Editorial.
23.	E.3.8, E.3.9	Replace “manufacturing” with “manufacturer” in second sentence.	Clarification.
24.	E.4.2.1	Removed provision to require ESD classification for partial requalification.	The temporary requirement to reclassify the ESD level for all devices has passed and we are reverting back to the standard requirements.

MIL-PRF-19500Pam3 Change Summary

25.	E.4.3	Remove extra word "Devices".	Editorial
26.	E.5.3.5	Remove "immediately", changed "40X" to "30X" and change the sample sizes from "45" to "22" pieces. Add allowance to use alternate methods if approved by the qualifying activity.	In addition to the process monitor, further review and coordination indicated that the previously proposed requirements were not needed to effectively find laser marking failures.
27.	E.6.6	Remove "except ESD classification shall be performed (see E.4.2.1)".	The temporary requirement to reclassify the ESD level for all devices has passed and we are reverting back to the standard requirements.
28.	Table E-III, 2.f	Replaced "TM1041" and "TM2071" with "Groups C2". Also added a sample size of 2 in the sample column.	Clarification.
29.	Table E-IV, note 12	Added, "For JANTX and JANTXV levels," and "Thermal impedance is not part of the PDA."	Clarification .
30.	Table E-V, subgroup 1 (small die flow)	Add salt atmosphere test.	The test aids in finding laser marking failures.
31.	Table E-VIA, subgroup 3	For test method SEM, 2077, add "see test method for sample size information".	Clarification.
32.	Table E-VIA, B4 IOL	Reorganize condition D requirement.	Clarification. Condition D only applies for 1042.
33.	Table E-VIA, note 4, (SEM)	Add "See E.3.1.2.1 for applicable designs."	Clarification to show what designs are applicable.
34.	Table E-VIB, B1/B2	Move recently added salt atmosphere (TM1041) from B2 to B1, and add "6 devices, c = 0".	Current location of the test in B2 could interfere with the Hermetic seal test.
35.	Table E-VIC, Group B inspection, step 2	Remove, "Test Condition A".	Clarification, Method 1048 does not require any conditions to be specified.

MIL-PRF-19500Pam3 Change Summary

36.	Table E-VII, subgroup 2	Add 2038 for US devices (condition B).	New method recently finalized is now used for surface mount devices in lieu of test method 2036.
37.	Table E-VII, note1	Add provisions to use the Group A, small die flow salt atmosphere tests for the group C requirements.	Clarification makes use of salt atmosphere test that has been added to group A, subgroup 1, for small die flow in, this amendment.
38.	Table E-X	Add, " <u>2</u> / Any group B inspection used to satisfy the JANS group C inspection requirements shall be included in the data requirements."	Clarification for data pack requirements.
39.	G.5.2.4.3	Change JANKC sample from "ten" to "twenty two".	Editorial. Updated to reflect the recent change of sample size in Table G-II that occurred in Amendment 2.
40.	H.3.6.1	Added that the specification sheet will list when bi-metallic bonds are being used, and added cross reference to the bake requirements in MIL-PRF-19500 when a bi-metallic bond is used.	Clarification. Will inform users that the use of bi-metallic bonds at the die is not permitted unless stated in the slash sheet and in accordance with D.3.9.5.b.
41.	H.5	Added T4 through T7 package identifier with the applicable package outlines.	Editorial, added additional existing information.
42.	H.5, U	Added ", or unleaded device".	Clarification, legacy usage of the "U" suffix was used as a generic "unleaded" description.