



DOCUMENT CHANGE REQUEST

DCR number 444

Changes required for: N/A

Originator: MOUTON Alain

Date: 2008/11/21

Date sent: 2008/11/21

Organisation: CNES

Status: IMPLEMENTED

Title: Requirements for Lead Materials and Finishes for Components for Space Application

Number: 23500

Issue: 4

Other documents affected:

Page:

1, 2.2, 3.1, 3.2, 3.3, 4.3

Paragraph:

1, 2.2, 3.1, 3.2, 3.3, 4.3

Original wording:

Proposed wording:

Para 1 (page 5)

Replace "leads and terminals" by "leads, terminations and materials" at two different places.

Add reference to ECSS-Q-ST-70-38 (space product assurance standard for high-reliability soldering for surface-mount and mixed technology)

Para 2.2 (page 5)

Add reference to ECSS-Q-ST-70-38 (space product assurance standard for high-reliability soldering for surface-mount and mixed technology)

Para 3.1 (page 5)

A. Replace "leads and terminals" by "leads, terminations and materials".

B. Amend the 2nd sentence to be "Unless otherwise specified the lead, termination or terminal type and finish of a component shall be ... etc".

Para 3.2 (page 5)

Replace "leads and terminals" by "leads, terminations and materials".

Para 3.2 - note (page 6)

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Amend the note to refer to "surface mount packages" instead of "chip carrier packages".

Para 3.3 (page 6)

Replace "leads and terminals" by "leads, terminations and materials".

Para 3.3 â.. type 4 (page 7)

Replace the sentence â..The solder shall be composition Sn63 and the coating shall have a thickness of 2.5Âµm to 13Âµmâ. by the following :

â..The solder shall be composition Sn60, Sn62 or Sn63 and the coating shall have a thickness of 2.5Âµm to 13Âµm for leaded devices and shall have a height not exceeding 25% of the terminal width for surface mount packages.

Para 3.3 - note 3 (page 8)

Replace "leads and terminals" by "leads, terminations and materials".

Para 4.3 (page 10)

Delete the complete text and replace it by :

When a Type 4 finish is specified and is produced from a lead, termination or terminal which was initially gold-plated, the gold shall be removed and the final finish applied in accordance with the de-golding and pre-tinning requirements of ECSS-Q-ST-70-08 sub-clause 7.1.6.

Justification:

Para 1 (page 5)

To clarify that 23500 also applies to surface mount components.

Para 3.1 (page 5)

A. To clarify that 23500 also applies to surface mount components.

B. See justification given in para 3.2 - note.

Para 3.2 (page 5)

To clarify that 23500 also applies to surface mount components.

Para 3.2 - note (page 6)

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Allow that termination material is not required to be specified in the detail specification for SMDs.

Para 3.3 (page 6)

To clarify that 23500 also applies to surface mount components.

Para 3.3 â.. type 4 (page 7)

A. The type of solder is amended from â..Sn63â. to â..SN60, SN62 or Sn63â. to be in line with ECSS-Q-ST-70-08.

B. No realistic requirements for solder protusion is currently given for SMD devices. A criteria is proposed in line with the MIL-STD-883 TM 2009 Â§.3.3.3.

Para 3.3 - note 3 (page 8)

To clarify that 23500 also applies to surface mount components.

Para 4.3 (page 10)

De-golding requirements are already specified in ECSS-Q-ST-70-08 & ECSS-Q-ST-70-38 (which directly calls ECSS-Q-ST-70-08).

Attachments:

N/A

Modifications:

Chairman Input approved during PSWG#40 (10 Sept 2009) with disposition (see section 3.3 type 4 of ESCC23500) : A) For unleaded packages : 300µm for max thickness. 220µm for coplanarity. B)For leaded packages the spec remains at 13µm.

For Para. 4.3 (Page 10) DCR is amended to refer to Para. 7.2.3 of ECSS-Q-ST-70-38.

Approval signature:



Date signed:

2008-11-21