DOCUMENT CHANGE REQUEST

DCR number 904	Changes required for: General	Originator: Steve Jeffery
Date: 2017/07/24	Date sent: 2014/12/10	Organisation: ESCC Executive
Status: IMPLEMENTED		

Title:	Generic Specification for Discrete Semiconductor Components		
Number:	5000	Issue:	6

Other documents affected:

5010-3

Page:

5000 Pages 16 and 17; 5010 Pages 22 and 23.

Paragraph:

5000 Paras. 8.2.1 and 8.7; 5010 Paras. 8.5.1 and 8.9.

Original wording:

Bond Strength Testing should be i.a.w. MIL-STD-750 Test Method 2037 Condition C or D (it is currently incorrectly specified as Condition A or B).

The original wording of Para. 8.2.1 of 5000 and Para. 8.5.1 of 5010 is as follows:
MIL-STD-750, Test Method 2037, Test Condition A or B.
Test Condition B shall only be permitted when Test Condition A cannot...

PIND Test should be i.a.w. MIL-STD-750 Test Method 2052.5 Condition A (20g) with amended test frequency. The test frequency is currently specified per the old Figure 2052-2 of Test Method 2052.2, dated 28 Feb. 1995.

The original wording of Para. 8.7 of 5000 and Para. 8.9 of 5010 is as follows:
... MIL-STD-750, Test Method 2052, Test Condition A. The use of the same attachment medium for the Sensitivity Test Unit (STU) and for the components under test (DUT) is not mandatory. PIND prescreening shall not be performed.
The test frequency shall be selected based on the average internal package height from the graph of Figure 2052-2 of the test method. The average internal package height shall be the distance measured from the floor of the package cavity, excluding the thickness of the die mounted inside the package, to the underside of the package lid. For heights of less than 10mils, the test frequency shall be 250Hz, and for heights greater than 400mils, the test frequency shall be 40Hz. ...

Proposed wording:

The proposed wording for Para. 8.2.1 of 5000 and Para. 8.5.1 of 5010 is as follows:
MIL-STD-750, Test Method 2037, Test Condition C or D.
Test Condition C shall only be permitted when Test Condition D cannot...

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The proposed wording for Para. 8.7 of 5000 and Para. 8.9 of 5010 is as follows:
... MIL-STD-750, Test Method 2052, Test Condition A.
The use of the same attachment medium for the Sensitivity Test Unit (STU) and for the components under test (DUT) is not mandatory.
The test frequency shall be selected based on the average internal package height from the formula given in the test method. For devices with cavity heights between 6.3mils and 23mils the test frequency shall be calculated using the formula. For devices with cavity heights less than 6.3mils the test frequency shall be 250Hz. ...

Justification:

The proposed changes will harmonise the Bond Strength and PIND paragraphs of Generics 5000 and 5010 with the latest revisions of the MIL-STD-750 Test Methods for Bond Strength and PIND (2037.1 and 2052.5 respectively).
The changes to the Bond Strength Para. are editorial only.
The changes to the PIND Para. include frequency modification in-line with the MIL Method whilst also taking the current ESCC Test Conditions into account (i.e. for package heights < 23mils).

Attachments:

dcr904(1).pdf

Modifications:

The change in this DCR proposed against the PIND test in ESCC 5000 and 5010 shall be replaced by the following:

The proposed wording for Para 8.7 of 5000 and Para. 8.9 of 5010 is as follows (i.e. changes to the internal package height limits and associated test frequencies):

…….

8.x PARTICLE IMPACT NOISE DETECTION (PIND)

MIL-STD-750, Test Method 2052, Test Condition A.

The use of the same attachment medium for the Sensitivity Test Unit (STU) and for the components under test (DUT) is not mandatory.

PIND prescreening shall not be performed.

The test frequency shall be selected based on the average internal package height from the formula given in the test method. The average internal package height shall be the distance measured from the floor of the package cavity, excluding the thickness of the die mounted inside the package, to the underside of the package lid. Unless otherwise specified, for heights of less than 23mils the test frequency shall be 130Hz and for heights greater than 250mils the test frequency shall be 40Hz.

The lot shall be submitted to ….. etc (no further changes to the test paragraph)

Approval signature:
Date signed:
2017-07-24