DOCUMENT CHANGE REQUEST

DCR number 1078

Changes required for: General

Originator: Steve Thacker

Date: 2017/07/24

Date sent: 2017/03/29

Organisation: ESCC Executive Secretariat

Status: IMPLEMENTED

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

Other documents affected:

Page:

13, 19, 27

Paragraph:

Para 6.2.1, 6.2.3, new 8.13, Chart F3 (F3A)

Original wording:

See ESCC 5000 issue 6 (and Draft 7E per DCR944)

Proposed wording:

Changes as follows to implement new screening test, Case Isolation, into Chart F3A:

Page 27, Chart F3; add new test (in Chart F3A), Case Isolation (Para. 8.13), after Check for Lot Failure with new note 8 as follows:
Note 8. Only required if specified in the Detail Specification.

Page 19, Add new associated Para (8.13) for Case Isolation as follows:
....
8.13 CASE ISOLATION
Not applicable to components with an active terminal connected to the case.

MIL-STD-750, Test Method 1081. The following details shall apply:

- Test Conditions: as specified in the Detail Specification.

- Data Points

During testing, there shall be no sign of breakdown or flash-over.
On completion of testing, the component shall be visually examined and there shall be no evidence of damage, arcing or breakdown. Measurements as specified in Room Temperature Electrical Measurements in the Detail Specification shall be performed.
....

Page 13, Para. 6.2.1, amend para to show only examples of relevant tests, not an exhaustive list.

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(e.g. (was: i.e.))

Page 13, Para 6.2.3; amend 2nd sub-para by adding or after Check for Lot Failure after .... Burn-in.

Justification:

Addition of a case isolation test to Screening in ESCC5000, as discussed/requested by ESA/PSWG.

The applicability of this test to the various published ESCC Detail Specifications under 5000 will be on a case by case basis as controlled by each ESCC Detail Specification.
For each Detail Spec that includes components for which it is decided that this test is applicable, a new Case Isolation requirement paragraph will be added that defines which components/variants/cases shall be tested and the test conditions that apply. The changes to the Detail spec(s) will be the subject of a new DCR(s) that will be discussed and agreed with the Manufacturer(s) and ESCC.
Note: Any ESCC Detail Specifications for which it is decided that this test is not applicable, will not require any changes due to this DCR.

Note: The test has been positioned at the end of Screening (in Chart F3A) so as to have no possible impact on the PDA check for lot failure.

Note: A final electrical measurement has been included in this new test to ensure the components have not been damaged during the test.

Attachments:

5000_issue_7++_(dcr_904_944_1027_&_1078_implementation).docx,
5000_issue_7f_(markup_for_dcr904_&_isolation_test_implementation)(2).docx

Modifications:

The original contents of DCR1078 are replaced in full by the following (in order to be in line with the modifications agreed per PSWG MOM#80 item 6 comments):

Changes as follows to implement a new screening test: Case Isolation, into Chart F3A (see attached ESCC 5000 Draft 7++ that implements these changes (as well as implement the other changes per approved DCRs 904, 944 & 1027)

1) Para. 6.2.1: Add "Case Isolation" to the list of tests.

i.e. change to read:

e.g. PIND, Case Isolation, Radiographic Inspection, Seal, External Visual Inspection and Solderability.

2) Para. 6.2.3: amend 2nd sub-para by adding "or after Check for Lot Failure" after .... Burn-in.

i.e.

" … which exhibits a limit failure prior to the submission to High Temperature Reverse Bias Burn-in or after Check for Lot Failure shall be rejected and not counted when determining lot failure."

3) Para. 6.4.1.1: Add new note after the 1st subpara:

"NOTE: Any components which fail during Case Isolation shall not be counted when determining lot failure."

4) Add new Para 8.13 for Case Isolation as follows (subsequent Paras 8.x to be renumbered accordingly):

....

8.13 CASE ISOLATION

Only applicable to components with case isolated packages where the active die connection terminals are electrically isolated from conductive surfaces of the case including the stud, base, sidewalls, and lid.

MIL-STD-750, Test Method 1081. The following details shall apply:

Test Conditions: as specified in the Detail Specification.

Data Points

During testing, there shall be no sign of breakdown or flash-over.

On completion of testing, the component shall be visually examined and there shall be no evidence of damage, arcing or breakdown. Measurements as specified in Room Temperature Electrical Measurements in the Detail Specification shall be performed.

……………………………

5) Chart F3: add new test (in Chart F3A), Case Isolation (Para. 8.13), after Check for Lot Failure with new note 8 as

follows:

Note 8. Only required if specified in the Detail Specification. Any failures shall not be counted when determining lot failure.

Approval signature:
Date signed:
2017-07-24