DOCUMENT CHANGE REQUEST

DCR number 1130

Changes required for: General

Originator: Valerie Lepaludier

Date: 2018/11/13

Date sent: 2017/11/23

Organisation: Atmel Microchip

Status: IMPLEMENTED

Title:	Evaluation Test Programme For Integrated Circuits: Monolithic And Multichip Microcircuits, Wire-		
Number:	2269000	Issue:	6

Other documents affected:

Page:

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Paragraph:

3. “Terms, definitions, abbreviations, symbols and units”

Original wording:

Add-on Components: Capacitors mounted in and electrically connected to a flip-chip integrated circuit assembly. Other component types are not permitted.

Proposed wording:

Add-on Components: Capacitors and resistors mounted in and electrically connected to a flip-chip integrated circuit assembly. Other component types are not permitted.

Justification:

Add-on components not to be limited to capacitors.
Harmonization with definition in ESCC GS 9000 issue 10 to be published

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Paragraph:

8.3.5.2.1 “Thermal Tests for Components with Hermetic Packages” (b) (i)

Original wording:

(i) Temperature Cycling
All devices shall be subjected to the test defined in Chart F3 ESCC Generic Specification
No. 9000 - 100 cycles instead of 10 cycles.

Proposed wording:

(i) Temperature cycling
All devices shall be subjected to the test defined in Chart F4A ESCC Generic Specification No. 9000 - 1500 cycles instead of 100 for flip-chip components.

Justification:

The number of cycling applicable for wire-bonded components (100 cycles) is not applicable for flip-chip componnets (1500 cycles).

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Paragraph:

8.3.4.7 “Die Shear or Substrate Attach Strength or Flip-Chip Pull-Off Test”

Original wording:

(b) Procedure
In accordance with Die Shear or Substrate Attach Strength or Flip-chip Pull-Off in ESCC Generic Specification No. 9000.

Proposed wording:

(b) Procedure
In accordance with Die Shear or Substrate Attach Strength or Flip-chip Pull-Off in ESCC Generic Specification No. 9000.
NOTE:
May be excluded for Flip-chip Integrated Circuit components with thermal interface material between the die and the lid/heat-spreader.

Justification:

Some items of Subgroup 2C cannot be performed on flip-chip components with Thermal Interface Material (TIM) between the die and the lid.
Harmonization with restrictions in ESCC GS 9000 issue 10 to be published (note 15 of chart F4A)

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Paragraph:

8.3.5.3.2 Subgroup 2D(ii-b) – Thermal Vacuum Test” (b) (ii)

Original wording:

Thermal Vacuum
All devices shall be subjected to thermal vacuum with the following conditions:
· 20 cycles
· Tamb = -30°C to + 70°C
· pressure: 10-5Pa

Proposed wording:

Thermal Vacuum
All devices shall be subjected to thermal vacuum with the following conditions:
· 20 cycles
· Tamb = -30°C to + 70°C
· pressure: 10-3 Pa

Justification:

Current vaccum pressure is considered overly severe and not consistent with ECSS-Q-ST-70-02 (referenced in §2.2) which specifies a level of 10-3 Pa. This modification is also requested by DCR1119

Attachments:
N/A
Modifications:
- Changes apply to the current issue of ESCC 2269000, i.e. Issue 6 dated February 2018. The proposed change to page 17 Para. 8.3.5.3.2 (Thermal Vacuum Test) has already been implemented in ESCC 2269000 Issue 6. - The proposed change to page 15 Para. 8.3.4.7 has been rejected by the PSWG, as stated in the PSWG Chairman's Disposition of this DCR. This change shall therefore not be included in ESCC 2269000 Issue 7. - Proposed wording (page 16 Para. 8.3.5.2.1 "(i) Temperature Cycling") is amended to "All devices shall be subjected to the test defined in Chart F3A of ESCC Generic Specification No. 9000 except that, for wire-bonded components the number of cycles shall be 100 minimum, and for flip-chip components the number of cycles shall be 1500 minimum." - Proposed wording (page 8 Para 3 "Add-on Components") is amended as follows: "Capacitors and/or resistors mounted in and electrically connected to a flip-chip integrated circuit assembly. Other component types are not permitted."
Approval signature:
Date signed:
2018-11-13