DOCUMENT CHANGE REQUEST

DCR number 943	Changes required for: General	Originator: Steve Jeffery
Date: 2015/11/25	Date sent: 2015/07/06	Organisation: ESCC Executive
Status: IMPLEMENTED		

Title:	Transistors Microwave Small Signal Silicon Bipolar, based on types BFY180 thru BFY183 BFY193		
Number:	5611/006	Issue:	5

Other documents affected:

Page:

Total reformat/re-write of ESCC Detail Specification 5611/006 issue 5 as part of the ongoing conversion of legacy ESA/SCC specifications to the ESCC format, as well as reflecting changes resulting from the conversion of ESCC Generic Specification No. 5010.

The layout, format and general content of 5611/006 issue 6 is based on other converted ESCC Detail Specifications (see attached for proposed 5611/006 issue 6).

The technical content of ESCC 5611/006 issue 6 remains closely based on the original ESCC 5611/006 issue 5 except as detailed herein.

Paragraph:

All.

Original wording:

See original ESCC 5611/006 issue 5.

Proposed wording:

Total reformat of this Detail Specification (from the range of various ESCC Detail Specifications, 5xxx/xxx, for microwave discrete semiconductors under Generic Specification No. 5010) as part of the ongoing conversion to the ESCC format.

See below for summary of changes, also see attached the proposed 5611/006 issue 6.

Note: known support for active procurement against this specification includes the following Manufacturers:
• Infineon Technologies AG.

Summary of changes to the current format, layout and content is as follows:

1) General
Rewording and restructure of various sections and paragraphs of the specification, plus other editorial changes including deletion of any redundant paragraphs and information, based on the layout and editorial content of other Detail Specifications already converted to ESCC format.

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Specific amendments include:

2) Para 3: delete added abbreviations.

3) Table 1(a) (& title, Para 1.1, 1.7, Table 1(b), Table 2, Table 3, Table 5(a) & (b), Table 6): Variants 01 & 02 (BFY180 & BFY280) and all applicable requirements are deleted (no longer supported by Infineon)

4) Table 1(a), Para 4.4.2: Lead material typographic error corrected to ‘G’ (i.e. ‘G2’ instead of ‘02’ or ‘D2’)

5) Table 1(b): Note 1 is split between Para. 1.5 Note 1 & Para. 2.4.1 Note 1.

6) Figure 1 is replaced by Para. 1.5 (Ptot, Rth(j-s), Note 2)

7) Figure 3: note added that lid is connected to emitter terminal.

8) Paras 4.2.2(a), (b) & 4.2.3(a), (b) & 4.2.4(a), (e) & 4.2.5(a), (b), (f): Deviations are made redundant by the latest Generic 5010 and hence are deleted.

9) Paras 4.2.4(f) & 4.2.5(g), Appendix A: deviation on the option to allow the use of specific rejects for Qual & MoQ testing is moved to appendix A for Infineon (as these deviations are considered only applicable to Infineon)

10) Paras 4.3.4 & 4.3.5, Appendix A: Bond Strength & Die Shear are moved to the Appendix A for Infineon (as these specify deviations to the ESCC Generic (& MIL) requirements as applied specifically by Infineon).

11) Para 4.4.1: metal lid is added to description of the case.

12) Para 4.5.1: requirement for ESD labelling is removed (as it is already covered by ESCC Basic spec No. 20600)

13) Table 2 Note 1: rewritten (duplicated parameter limit values are removed (i.e. 12V)

14) Table 2 Notes 10, 11, 13: The “LTPD15” sampling is replaced by an equivalent fixed sample of 15 components with 0 failures (for the purposes of simplification & clarification).

15) Table 3 No. 2, ICBO2: test is to be performed on a sample basis (5 components) in line with the default condition in ESCC Generic 5010.

16) Figure 4 is deleted (as such generalised figures do not serve any real purpose with regards to the Detail Specification).

17) Table 5(a): VBE condition (0V) is added (for the purpose of clarification & consistency)

18) Table 5(b) & Figure 5: Test circuit and timing figures are deleted and replaced by new Note 1 in Para 2.8 (as these generalised figures serve only to indicate how a specific Manufacturer performs the test; they are not actual requirements)

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19) Table 5(b) Note 1: Note is amended to delete the arbitrary example thermal resistance details (“e.g. RTH(S-A) = 150ºC/W”)

20) Para 4.9, Figure 6, Table 7: All references to radiation testing is deleted from this spec (as radiation testing is not applicable to this spec)

21) Appendix A (for Infineon):
Deviation on Radiographic Inspection is deleted (as it is not an actual deviation to the current ESCC 20900)
Deviation on Para 8.2.3(e) is amended to apply to Final Customer Source Inspection (instead of LA3 which no longer applies in Generic 5010).
New deviations on Dimension Check & Temperature Cycling are added at Manufacturer Infineon’s request.

Justification:

Part of the ongoing conversion of legacy ESA/SCC specifications to the ESCC format. Amendments are made to the format and presentation to be consistent with the various other ESCC Detail Specifications, already converted to ESCC format, as well as the current issue of ESCC Generic Specification No. 5010.

See also change details above for justification for specific items.

Note: All changes in this DCR have been agreed with the one ESCC qualified supporting Manufacturer lnfineon Technologies AG.

Attachments:

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Modifications:

The following specific additional amendments also apply to this DCR:

22) Table 1(b) Maximum Ratings, Operating Temperature Range Characteristic: The remark "Tamb" is changed to "TS" in order to be consistent with other Maximum Ratings.

23) Para. 1.7 Handling Precautions: Last sentence amended (addition of the standard phrase "per ESCC Basic Specification No. 23800").

24) Table 5(a) Conditions for High Temperature Reverse Bias Burn-in: Characteristic (and Symbol) "Case Temperature, Tcase" replaced by the more appropriate "Soldering Point Temperature, TS".

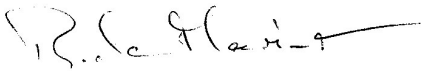
25) Table 5(b) Conditions for Power Burn-in and Operating Life Tests: Characteristic (and Symbol) "Ambient Temperature, Tamb" replaced by the more appropriate "Soldering Point Temperature, TS". Ambient
Temperature Conditions are replaced with the applicable minimum Soldering Point Temperatures. Power Dissipation Conditions are replaced with the appropriate test condition, i.e. "< or = Ptot given in

Maximum Ratings". Because of the changes above, the wording of Note 1 is simplified (components are no longer required to be clamped within the Burn-in fixture).

26) Appendix A (for Infineon): Deviation on Para. 8.2.3(e), witnessing of Electrical Measurements at Room Temperature, is amended to include 1MHz Parameters in addition to DC Parameters
(q.v. 5611/009 Iss. 2 et al.).

These additional amendments are included in the attached proposed updated specification 5611/006 Issue 6E.

Approval signature:



Date signed:

2015-11-25