DOCUMENT CHANGE REQUEST

DCR number 1036

Changes required for: General

Originator: Steve Jeffery

Date: 2016/11/14

Date sent: 2016/09/19

Organisation: ESCC Executive

Status: IMPLEMENTED

Title:	Diodes Microwave Silicon Schottky General Purpose, based on types BAS40 and BAS70		
Number:	5512/020	Issue:	3

Other documents affected:

Page:

Total reformat/re-write of ESCC Detail Specification 5512/020 issue 3 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 5512/020 issue 4 is based on other converted ESCC Detail Specifications (see attached for proposed 5512/020 issue 4).

The technical content of ESCC 5512/020 issue 4 remains closely based on the original ESCC 5512/020 issue 3 except as detailed herein.

Paragraph:

All.

Original wording:

See original ESCC 5512/020 Issue 3.

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 5512/020 issue 4.

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.

Specific amendments include:

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

3) Para 3: delete added abbreviation.

4) Table 1(a), Note 1: removal of all references to the discontinued Type Variant 02 (per ESA policy).

5) Table 1(a): the Thermal Resistance, Junction-to-Case max rating is moved here from Figure 1 for the purposes of completion and consistency.

6) Table 1(b) Maximum Ratings, Power Dissipation Characteristic and associated Note 2: symbol Ptot is changed to PD and the maximum value of Tcase is moved from Note 2 to the remark column.

7) Figure 1 is replaced by Para. 1.5 (PD, Rth(j-c), Note 2).

8) Figures 2 and 3: Figure and symbols are amended to be consistent with the same package type given in other specs. Note 1 of Figure 3 is moved to Figure 2 (Physical Dimensions and Terminal Identification).

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

10) Paras 4.3.4 & 4.3.5: Test Condition (b) for Bond Strength & (a) for Die Shear are moved to Appendix A for Infineon (as these specify deviations to the ESCC Generic (& MIL) requirements as applied specifically by Infineon). Para. 4.3.4 is deleted and Para 4.3.5 re-worded (standard wording for alternative requirement for when the package clearances are such that the normal die shear test cannot be performed; q.v. 5611/006 et al).

11) Para 4.4.1: lid and sealing ring material (metal) is added to description of the case.

12) Para 4.5.1: item (a) is deleted as terminal identification marking is not required / unnecessary.

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

14) Para. 4.5.3: Testing Level (B or C, as applicable) is deleted.

15) Table 3: tests are to be performed on a sample basis (5 components) in line with the default condition in ESCC Generic 5010.

16) Table 5(b) Conditions for Power Burn-in and Operating Life Tests: Power Dissipation Condition is amended in order to be consistent with Maximum Ratings and device characteristics. Because of this change, the wording of Note 1 is simplified (components are no longer required to be clamped within the Burn-in fixture).

17) Table 5(b) Note 1: Note is amended to delete the arbitrary thermal resistance details (“RTH(C-A) = 75°C/W must be

considered”).

18) Figures 5(a) and 5(b) are deleted as they do not have any meaningful purpose with regard to the required content of the specification.

19) Para 4.9, Radiation Testing: para is deleted as radiation testing is not applicable to this spec.

20) Appendix A (for Infineon):
Deviation on Radiographic Inspection is removed (no longer required per the latest Generic).
New deviations on Dimension Check, Temperature Cycling and Assembly Capability Subgroup tests are added at Manufacturer Infineon’s request (these deviations are considered to be acceptable due to device construction, size and heritage).

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 Infineon Technologies AG.

Attachments:

5512020_draft_4c_for_dcr.docx

Modifications:

N/A

Approval signature:

Date signed:

2016-11-14