



DOCUMENT CHANGE REQUEST

DCR number 1448 Changes required for: General

Date: 2023/11/30

Date sent: 2021/07/15

Originator: Steve Jeffery

Organisation: ESCC Executive

Status: IMPLEMENTED

Title: RF Coaxial Connectors, Type SMA 2.9, 50 Ohms (Male Contact)

Number: 3402/021

Issue: 4

Other documents affected:

Page:

Total reformat/re-write of ESCC Detail Specification 3402/021 issue 4 as part of the ongoing conversion of legacy ESA/SCC specifications to the ESCC format as well as reflecting changes in the recently converted ESCC Generic Specification No. 3402 issue 5.

The layout, format and general content of 3402/021 Draft 5 is based on other converted ESCC Detail Specifications (see attached for proposed 3402/021 Draft 5).

The technical content of ESCC 3402/021 Draft 5 remains closely based on the original ESCC 3402/021 issue 4 except as detailed herein.

Paragraph:

All.

Original wording:

As per ESCC 3402/021 issue 4.

Proposed wording:

Total reformat of this Detail Specification (from the range of various ESCC Detail Specifications, 3402/xxx, for RF connectors under Generic Specification No. 3402) as part of the ongoing conversion to the ESCC format.

See below for summary of changes, also see attached the proposed 3402/021 Draft 5.

Note: known support for active procurement against this specification includes the following Manufacturers:

- Radiall (on ESCCQPL)
- Rosenberger (on ESCCQPL)

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

General

Rewording and restructure of various sections and paragraphs of the specification, plus other editorial changes based on the layout and editorial content of other Detail Specifications already converted to ESCC format.

In addition, editorial and technical amendments resulting from the changes made to the test requirements of the Generic



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Specification No. 3402.

Specific amendments include:

- Table 1(a): New Variant 08 added for Hermetic Glass Seal (Radial P/No. R280760000, which was referenced in Figure 2(b) for Variant 07)(The variant 08 is added as part of the ESCC Detail spec, where previously it was to be procured as a separate Material against the Radial Part number R280760000. This makes this spec consistent with ESCC 3402/001 for SMA by facilitating ESCC procurement of Variant 08 (the same Hermetic Glass Seal is included as part of specific connector Variants in ESCC 3402/001).
- Table 1(b) & also Table 6: DWV at sea level/low pressure, Corona Level are deleted (as the requirements have been deleted in the Generic spec).
- Table 1(b): Rated Operating Voltage is amended to be 350V (was 50% of Vdw) based on Manufacturers data sheet value.
- Figures 2(a) and 3: are updated/simplified.
- Para 4.3.4 & Para. 3: Cable retention force/torque is deleted (as the requirements have been deleted in the Generic spec).
- Para. 4.3.7: Residual Magnetism is deleted (as the requirements have been deleted in the Generic spec).
- Para. 4.3.8: deleted (as Contact Engagement and Separation Forces only applies to connectors with a female contact).
- Para. 4.4: Materials and finishes for hermetic glass seal (i.e. new Variant 08) are added.
- Paras. 4.5.1, 4.5.2: ESCC component number is amended: ESCC qualified components symbol is added; Testing level is deleted (SCC level B/C being deleted)
- Paras. 4.5.3, 4.5.3.1: The unnecessary codes for Number: 01 and the type of plating/material: 3 are deleted.
- Table 2, Voltage Proof Leakage Current: test point details are added.
- Table 6 only includes specified electrical measurement requirements as required for the various Chart F4 Qual level tests (tests without electrical measurements are deleted) (editorial change).
- Table 6: Contact Resistance test conditions are added and Contact Resistance is added where applicable for the new Variant 08 (Hermetic glass seal centre contact).
- Figure 2(b) (now Para 3):
All variants:
RF leakage, Minimum cable retention force/torque, Rapid Change of Temperature - peak value are deleted (as the requirements have been deleted in the Generic spec).
Maximum leakage (panel sealed connectors) is deleted (= redundant information)
Soldering Proof is deleted (as the test has been deleted in the Generic spec).

Variant 07: Text referring to Radial's own P/No. is replaced (now refers to Variant 08).

Detail Requirements for new Variant 08 are included in Para. 3.

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 ESCC Generic Specification No. 3402 issue 5.

See also change details for justification for specific items above.

Attachments:
escc3402021_iss_5_draft_a_for_review.docx
Modifications:
In Table 1(a) for Variant 04, correct the cable type (to be SHF 4.8MS) Table 1(a): pin reference is excluded for Variant 07 Table 1(a), Para 4.4, Table 6, Figure 2(b): A new variant for the hermetic glass seal (R280760000) is not added. A new Note is added to Variant 07 referring to use of the new hermetic glass seal variant in 3402/023 ('340202307') for hermetic application. Table 1(b), Figure 2(b): rated soldering temperature is added. Note 1 (& in new Para 3): The original power handling figure is replaced (as provided by Radiall). The order of the categories I, II, III are reversed, and a new note is added that "ESCC Multipactor Tool v1.0" was used to construct the curves. Figure 2(a) & 3 are replaced by reference to MIL-STD-348 series SMK (in new Para. 1.6.1) Para 4.3.6: number/rate of cycles is amended to be as specified in ESCC3402 (i.e. 500Qual/100LAT is deleted). Table 2 & Figure 2(b) (new Para 3): Note added on Variants with components not mounted not requiring measurements per Chart F3. Table 6: note on measurement details for VSWR is added. In new Para 3, see attached for details including, as applicable: amend dimension details Add note on mounting of components Amend characteristic values Add note on RF leakage Add notes on the maximum operating and storage temperature ratings, and test frequency being limited by the cable details. Add seal requirements Amend solderability requirements Add Appendices to permit Manufacturers to still mark the current testing level and material option codes as a Manufacturer Code.
Approval signature:

Date signed:
2023-11-30