DOCUMENT CHANGE REQUEST

DCR number 1312	Changes required for: General	Originator: Steve Jeffery
Date: 2020/06/09	Date sent: 2020/01/27	Organisation: ESCC Executive
Status: IMPLEMENTED		

Title:	Capacitors Fixed Metallized Polycarbonate Dielectric, based on type CKM 111		
Number:	3006/007	Issue:	2

Other documents affected:

Page:

All.

Paragraph:

Total reformat/re-write of ESCC Detail Specification 3006/007 issue 2 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. 3006 (ref. DCR 1231).

The layout, format and general content of 3006/007 issue 3 is based on other converted ESCC Detail Specifications, see the attached draft Detail specification that implements all the proposed changes:
3006007 draft 3B for DCR review.docx

The technical content of ESCC 3006/007 issue 3 remains closely based on the original ESCC 3006/007 issue 2 except as detailed herein.

Original wording:

See 3006/007 issue 2

Proposed wording:

Total reformat of this Detail Specification (one of a range of various ESCC Detail Specifications for capacitors under Generic Specification No. 3006) as part of the ongoing conversion to the ESCC format.

See below for summary of changes, also see attached the proposed 3006/007 issue 3.

Note: known support for active procurement against this specification includes the following Manufacturers:
• Exxelia Technologies (formerly Eurofarad).

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) Title page: “hermetically sealed” added (relevant description of the components with regard to ESCC 3006 Generic, test “Seal (Fine and Gross Leak)”).

3) Paras 1.2, 4.3.2 and Table 1(a): Range of Components Table is amended:
• ØD is identified as a maximum dimension.
• Weight column is modified to list the maximum (not mean) weight of the components and Para 4.3.2 is deleted accordingly.
• A new explanatory note (Note 2) is added regarding the dimensions of the components.

4) Para 1.3 and Table 1(b): Maximum Ratings is amended to include the required derating information (UR derating above +100°C, this information was included in Figure 1 which is now deleted).

5) Para 1.5 and Figure 2, Physical Dimensions:
• The figure is amended for clarification purposes.
• New Notes 2 and 3, which are applicable to the “Insulating Sleeve” (part of the component), are added.

6) Para 1.6 and Figure 3, Functional Diagram: The diagram is simplified (“C” is unnecessary).

7) Para 4.3.3, Robustness of Terminations: paragraph is re-worded for clarification purposes.

8) Para 4.4.1, Case Material and Finish: Paragraph is re-worded and the case is now defined as being hermetically sealed with glass beads (as defined in the Manufacturer’s data sheet).

9) Para 4.4.2, Lead Material and Finish: the information about the “sheath” (actually the insulating sleeve) is removed and is included in a new note (Note 3) to Physical Dimensions.

10) Para 4.5.2, the ESCC Component Number marking: the mandatory Component Type Variant Number (01) is added.

11) Para 4.6.1 and Table 2 (was “Electrical Measurements at Room Temperature”, now “Room Temperature Electrical Measurements”):
• The content of the Capacitance “Limits” and “Remarks” columns are replaced by two Notes (Note 1 defines the Minimum Limit and Note 2 defines the Maximum Limit).
• Tangent of Loss Angle Test Conditions (test voltage and frequency) are added as these conditions are defined in all the other existing 3006/### Detail Specs.
• All Insulation Resistance (Characteristic corrected to “Insulation Resistance, Dielectric”) details are now included in the table; Note 1 (which gave the limit for RI when C > 0.22µF) is therefore deleted.
• New Note 3 added for Voltage Proof, Terminal-to-Terminal regarding Rated Voltage (UR).

12) Para. 4.6.2 and Table 3 (was “Electrical Measurements at High and Low Temperatures”, now “High and Low Temperatures Electrical Measurements”):
• New Note 1 (which defines the sampling) is added.

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• Temperature tolerance for Insulation Resistance amended to reflect the standard tolerances used throughout this series and, generally, most ESCC Detail Specs, i.e. (+0 -5)°C.
• Capacitance Change characteristic is re-named “Temperature Coefficient” and new Note 2 added which verifies that the test limits are with respect to the capacitance at reference point temperature (+22 ±2°C).
• All Insulation Resistance (Characteristic corrected to “Insulation Resistance, Dielectric”) details are now included in the table; Note 1 (which gave the limit for RI when C > 0.22µF) is therefore deleted.

13) Para 4.6.3 and Figure 4 are deleted (not applicable, i.e. any suitable circuit(s)/measuring methods may be used for the performance of the electrical measurements).

14) Para 4.7.2 and Table 5 (was “Conditions for Burn-in”, now “Burn-in Conditions”): The sentence regarding 24 ±2 hours recovery is re-worded and is included in Note 1.

15) Table 6 (Measurements and Inspections on Completion of Environmental Tests and at Intermediate Points and on Completion of Endurance Testing) is modified and incorporated into new Para “Intermediate and End-Point Electrical Measurements” (Para 2.6):
• The Characteristic “Damp Heat Steady State (Duration 56 Days)” is deleted.
• Where limits are specified as “Table 2” this is now a Note directing to Room Temperature Electrical Measurements.
• The following Electrical Measurement Characteristics are added (in order to be in-line with the new Generic requirements):
o “Insulation Resistance, Dielectric)” and “Tangent of Loss Angle” for Resistance to Soldering Heat (Final Measurements)
o Voltage Proof, Terminal-to-Terminal for Climatic Sequence (Final Measurements) plus associated note regarding Rated Voltage (UR)
• For Operating Life, the actual Insulation Resistance, Dielectric limits are now included in the table and apply to the full available range of capacitance values; Note 1 is therefore deleted.
• Temperature Coefficient is considered to be a required test and it is therefore added, with Limits based on those for “Temperature Coefficient” measured during High and Low Temperatures Electrical Measurements.
• Operating Life now includes the Electrical Measurement Characteristics and explanatory note for the Intermediate Measurements and the Final Measurements, according to the new Generic.

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. 3006.

See also change details above for justification for specific items.

Attachments:
3006007_draft_3c_for_dcr_review.docx, 3006007_draft_3b_for_dcr_review.docx
Modifications:
N/A
Approval signature:
Date signed:
2020-06-09