APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

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Component Title: Capacitors, Leadless Surface Mounted, Tantalum, Solid electrolyte, Low equivalent series resistance based on type TES.

Appl. No. 327D

Executive Member: ESA Date: 20/09/2021

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Components (including series and families) submitted for Extension of Qualification Approval:

ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S	COMPONENT SIMILAR
3012/004	01 A - G16	ESCC 3012/004 Table 1(a)	TES	See box 14	All other variants and values.
	02 B - G16	1uF-470uF, 6V -50V			
	03 C - P17				
	04 D - P17				
	05E - P17				

2 Component Manufacturer

Kyocera AVX Components s.r.o

3 Location of Manufacturing Plant(s)

Dvorakova 328
Lanskroun
Czech Republic

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Date of original qualification approval:
Date: 10/12/2013

Certificate Ref No. 327

5 ESCC Specifications used for Maintenance of qualification testing:

Generic: 3012 Issue: 4

Detail(s): 3012/004 Issue: 5

6 Deviations to LVT testing and Detail Specification used:

No ☒ Yes ☐ (supply details in Box 15)

Deviation from current Specifications:

No ☒ Yes ☐ (Supply details)

7 Qualification Extension Report reference and date:

Extension of Valid Qualification, Customer Information Package, 20th September 2021

8

Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)

Project Name	Testing Level	LAT	Date code	Quantity Delivered
See box 22				

9 **PID** changes since start of qualification

None ☐
Minor* ☒
Major* ☐

*Provide details in box:

New issue of PID100 (issue 7) – approved by ESA 15/07/2021.
Changes:
- New ESCC Deputy Chief Inspectors,
- Organisation structure update,
- Lot Validation Testing added according to new issue of ESCC 3012 issue 4,
- ESCC Documents update

10 Current **PID** Verified by: ESA
Name of Executive Representative Agency

Ref No: PID100 issue 7, PID100/004
Issue: 7 Date: 21/10/2020
Rev Date: 20/09/2021

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Current Manufacturing facilities surveyed by: L. Farhat, D. Lacombe, S. Hernandez, ESA on 23/06/2015
(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐ Explain

Report Reference: AVXLAN-AUD-2015-1

12

Failure Analysis, DPA, NCCS available: Yes ☐ No ☒ (Supply data)

Ref. No's and purposes:

13

The undersigned hereby certifies on behalf of the ESCC Executive - that the above information is correct; - that the appropriate documentation has been evaluated; - that full compliance to all ESCC requirements is evidence (except as stated in box 15;) - that the reports and data are available at the ESCC Executive and therefore applies on behalf of ESA as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.

Date: 30/09/2021

(Signature of the Executive Coordinator)
Anastasia Pesce

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Continuation of Boxes above:

Selection of codes was based on:

- Coverage of different case sizes
- Coverage wide range of voltage
- Coverage different capacitances and used powders

Selected codes:

A22/6,3 – 301200401226KJ0900
B10/20 – 301200402106KD1000
C3,3/50 – 301200403335KT1000
D33/25 – 301200404336KE0065
E330/10 – 301200405337KA0035

15

Non compliance to ESCC requirements:

No.:	Specification	Paragraph	Non compliance

16

Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance:

17

Executive Manager Disposition

Application Approval: Yes ☒ No ☐

Action / Remarks:

Date:

Britta Schade

Digitally signed by Britta Schade
Date: 2021.10.07 18:26:05 +02'00'

B. Schade: Head of the Product Assurance and Safety Department

ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION

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Tests conducted in compliance with:

- ESCC 3012 generic specification; Chart V (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

Detail Specification reference: 3012/004

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental / Mechanical Subgroup Group 1A	Mounting	☒	IEC 60384-1	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Robustness of Terminations	☒	ESCC 3012 issue 4, Para. 8.9	A2045 B2044 C2046 D2046 E2044	12x5	0	
	External Visual Inspection	☒	ESCC 20500	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Climatic Sequence	☒	ESCC 3012 issue 4, Para. 8.10	A2045 B2044 C2046 D2046 E2044	12x5	0	
Environmental / Mechanical Subgroup Group 1B	Mounting	☒	IEC 60384-1	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Rapid Change of Temperature	☒	ESCC 3012 issue 4, Para. 8.2.2 IEC 60068-2-14	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Vibration	☒	ESCC 3012 issue 4, Para. 8.11 IEC 60068-2-6	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Mechanical Shock	☒	ESCC 3012 issue 4, Para. 8.12 IEC 60068-2-27	A2045 B2044 C2046 D2046 E2044	12x5	0	

	External Visual Inspection	☒	ESCC 20500	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Climatic Sequence	☒	ESCC 3012 issue 4, Para. 8.10	A2045 B2044 C2046 D2046 E2044	12x5	0	
Environmental / Mechanical Subgroup Group 1C	Mounting	☒	IEC 60384-1	A2045 B2044 C2046 D2046 E2044	12x5	0	
	High and Low Temperature Stability	☒	ESCC 3012 issue 4, 8.13	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Surge Voltage	☒	ESCC 3012 issue 4, 8.14	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Damp Heat, Steady State	☒	ESCC 3012 issue 4, 8.15 IEC 60068-2-78	A2045 B2044 C2046 D2046 E2044	12x5	0	
	External Visual Inspection	☒	ESCC 20500	A2045 B2044 C2046 D2046 E2044	12x5	0	
Endurance Subgroup Group 2A (Operating life at 85 °C)	Mounting	☒	IEC 60384-1	A2045 B2044 C2046 D2046 E2044	36x5	0	
	Operating Life at 85 °C	☒	ESCC 3012 issue 4, Para. 8.16(a)	A2045 B2044 C2046 D2046 E2044	36x5	0	
	Intermediate and Final Measurements	☒	ESCC 3012 issue 4, Para. 8.16(a) ESCC 3012/004 issue 5, Para. 2.4	A2045 B2044 C2046 D2046 E2044	36x5	0	
	External Visual Inspection	☒	ESCC 20500	A2045 B2044 C2046 D2046 E2044	36x5	0	

Endurance Subgroup Group 2A (Operating life at 125 °C)	Mounting	☒	IEC 60384-1	A2045 B2044 C2046 D2046 E2044	24x5	0	
	Operating Life at 125 °C	☒	ESCC 3012 issue 4, Para. 8.16(a)	A2045 B2044 C2046 D2046 E2044	24x5	0	
	Intermediate and Final Measurements	☒	ESCC 3012 issue 4, Para. 8.16(a) ESCC 3012/004 issue 5, Para. 2.4	A2045 B2044 C2046 D2046 E2044	24x5	0	
	External Visual Inspection	☒	ESCC 20500	A2045 B2044 C2046 D2046 E2044	24x5	0	
Assembly Capability Subgroup Group 3	Permanence of Marking	☒	ESCC 24800	A2045 B2044 C2046 D2046 E2044	12x5	0	
	Solderability	☒	IEC 60068-2-20 ESCC 3012 issue 4, Para. 8.18	A2045 B2044 C2046 D2046 E2044	12x5	0	

NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR ESCC QUALIFICATION EXTENSION APPROVAL

ENTRIES

Form heading	shall indicate: - the title of the component as given in its detail specification or the name of the series, family; - the Executive Member; - the entering date; - the certificate number and its sequential suffix.
Box 1	shall provide details given in the table; in particular there shall be listed: - the variants or range of variants; - the range of components (the ESCC code is recommended to indicate the values or values range, the tolerance, the voltage, etc); the designation given in the detail specification as 'base on'; - under Test Vehicle enter either an ESCC code or the specific characteristic capable of identifying the component tested (e.g., voltage of coil for a relay); - under component similar enter a cross if relevant.
Box 2; 3 and 4	As per QPL entry; otherwise, an explanation of the changes must be supplied.
Box 5	Will show the ESCC Generic and Detail specifications, including issue number and revision letter, current at the time the tests reported were performed. If the specifications are different from those current on the date of the application, see Box 6.
Box 6	Will show the deviations from the Generic and Detail Specifications listed in Box 5, in particular deviations from testing. In case of deviations this must be listed in Box 15. In case the referenced specification in Box 5 have currently a different issue and/or revision indicate also whether the test data deviates or not from such current documents.
Box 7	Must reference the report(s) supplied in support of the application.
Box 8	Should provide the details of procurement to the full ESCC System, documentation of all of which should already have been delivered to the ESCC Executive under the terms of the relevant Generic Specification. An appropriate table has been drawn in this box.
Box 9	If the PID evolved after the Original Qualification or after the last Extension of Qualification, adequate details of such evolution shall be provided together with the reasons for the changes. Major changes shall be clearly marked.
Box 10	Identify the current PID issue status, date and actual date of verification. The date of verification of the current PID should be arranged as close as possible to the required date of extension.
Box 11	This box can be completed only after a physical visit to the plant to confirm that no unexplained changes occurred and that the practices, procedures, material, etc. used in manufacturing the components are as described in the PID. This survey shall be carried out in accordance with the requirements of ESCC Basic Specification No. 20200 and its findings shall be recorded.
Box 12	Provide details of, or reference to, any Destructive Physical Analysis (DPA) and Failure Analysis reports as well as any Nonconformance(s) (NCCS) occurred during the qualification validity period, stating if established corrective action have produced satisfactory results.
Box 13	Enter only the name of the Executive Member (i.e., CNES, DLR, ESTEC, etc.) and the signature of the responsible Executive Coordinator.
Box 14	To be used when there is a need to expand any of the boxes from 1 through 12. Identify box affected and reference the Box 14 in the relevant Box. Box 14 can be broken into 14a, 14b, etc. if several boxes have to be expanded.
Box 15	Fill in Table as requested.
Box 16	Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
Box 17	All Executive Manager recommendations on the application itself, special conditions or restrictions, modifications of the QPL or QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 19, signed by the representative for ESA, and dated.
Box 18	Fill in Table as requested.
Box 19	Confidential Details of PID changes including those of a confidential nature, shall be provided.
Box 20	State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 16 each nonconformance shall be sequentially numbered. If relevant state 'None'.
Box 21	Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
Box 22	Additional Comments.