ESCC

APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: Capacitors, Fixed, Chip, Ceramic Dielectric, type I, based on types 0805, 1206, 1210, 1812, 2220

Executive Member: CNES Date: 10/04/2018

Appl. No. 109N rev1

1 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
3009 003 - 3009 004	03, 06	See box 14	0805 - 1210	3009003064750DE 3009003061001JE 3009004064701FE 3009004066801JE	
3009 005	03, 06		1812	3009005061502JE 3009005061001JE	Click here to enter text.
3009 006	03, 06		2220	3009006062202FE 3009006063302FE	Click here to enter text.
3009 022	03, 06		1206	AN20CE0332J2L	X

2 Component Manufacturer

TPC
A division of AVX Corporation

3 Location of Manufacturing Plant(s)

Avenue du Colonel Prat
21850 SAINT APOLLINAIRE – France

4 Date of original qualification approval:

Date: 01/02/1983

Certificate Ref No. 109

5 ESCC Specifications used for Maintenance of qualification testing:

Generic: 3009 Issue: 2

Detail(s): 3009/003, 3009/004, 3009/005, 3009/006 Issue: 6 / 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:

VOQ 2017 Certificate 109 (Type 1), 11/04/2017

TPC Report 1G2ENC90CA012018 dated 03/2018

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
EADS (70% TESAT) TAS			April 2015 to March 2017	39 607 parts
ALTER RUAG		2	1627	
APC (UK) RGM				
ARROW TTI				

9 PID changes since start of qualification

None ☒
Minor* ☐
Major* ☐ *Provide details in box: 19

10 Current PID Verified by: CNES
Name of Excutive Representative

Ref No: 1G2 PID 100 18WQ
Issue: 18 Date: 10/04/2018
Rev Date: 05/04/2018

11 Current Manufacturing facilities surveyed by: CNES (Name of Executive Representative) on 17/04/2017 (Date)

Satisfactory: Yes ☒ No ☐ Explain

Report Reference: 2017-06001-CR

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 CNES as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.

Date: 10/04/2018

JP. BUSSENOT

(Signature of the Executive Coordinator)

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Continuation of Boxes above:

Style	Model	Detail Spec.	Variants (1)	Capacitance Range (pF)	Rated Volt. (V)	Tolerance (±%)	TC (ppm/°C)
0805	A_12C	3009/003	03, 06	4.7 to 9.1 10 to 1 500	50, 100	0.5 pF 1, 2, 5, 10	± 30
1206	A_20C	3009/022	03, 06	10 to 3 900	50, 100	1, 2, 5, 10	± 30
1210	A_13C	3009/004	03, 06	22 to 6 800 8 200 to 10 000	50, 100 50	1, 2, 5, 10	± 30
1812	A_14C	3009/005	03, 06	100 to 15 000	50, 100	1, 2, 5, 10	± 30
2220	A_15C	3009/006	03, 06	470 to 33 000	50, 100	1, 2, 5, 10	± 30

(1) Variant 01 (AgPd) replaced in 2013 with variant 03 (AgPdPt) was removed from TPC PID revision 15

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:

Signature, ESA Representative

ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION 18

Tests conducted in compliance with:

- ESCC 3009 generic specification: Chart V (for ESCC/QPL parts);
- Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

3009003064750DE – DC1640 3009003061001JE / KE – DC1550, 1614 3009003061201KE – DC1608	30090030622C0JG – DC1627 (out of QPL range) 3009004064701FE – DC1547, 1637 3009004066801JE – DC1641
3009005061502JE / JC – DC1606, 1648 3009005061001JE – DC1610	3009006062202FE – DC1540, 1549, 1710 3009006063302JE – DC1629, 1647

Detail Specification reference: 3009/003/004/005/006

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental / Mechanical Subgroup	Mounting	☒	IEC 60384-1	1640 1550 1614 1547 1637 1606 1610 1549 1629 1620 (a)	20 20 20 20 20 20 20 20 20 20	0	(a) 1206 / AN20CE0332J2L (T3)
	Rapid Change of Temperature	☒	IEC 60068-2-14	1640 1550 1614 1547 1637 1606 1610 1549 1629 1620 (a)	20 20 20 20 20 20 20 20 20 20	0	
	Steady State Humidity	☒	ESCC 3009, Para. 8.2	1640 1550 1614 1547 1637 1606 1610 1549 1629 1620 (a)	20 20 20 20 20 20 20 20 20 20	0	1 000 hours

	Visual Inspection	☒	ESCC 3009, Para. 8.5	1640 1550 1614 1547 1637 1606 1610 1549 1629 1620 (a)	20 20 20 20 20 20 20 20 20 20	0	
Endurance Subgroup	Mounting	☒	IEC 60384-1	1640 1550 1614 1547 1637 1606 1610 1549 1629 1620 (a)	37 40 40 31 40 40 40 40 40 40	0	
	Operating Life	☒	ESCC 3009, Para. 8.9	1640 1550 1614 1547 1637 1606 1610 1549 1629 1620 (a)	37 40 40 31 40 40 40 40 40 40	0	2 000 hours
	Electrical Measurements during Endurance Testing	☒	ESCC 3009, Para. 8.9	1640 1550 1614 1547 1637 1606 1610 1549 1629 1620 (a)	37 40 40 31 40 40 40 40 40 40	0	
Electrical Subgroup (Elect. Meas.)	Mounting	☐	IEC 60384-1				Option
	Temperature Coefficient (Type I)	☒	ESCC 3009, Para. 8.10	1614 1641 1710 1647	5 7 6 6	0	
	Temperature Characteristic (Type II)	☐	ESCC 3009, Para. 8.10				Not Applicable
	Robustness of Terminations	☒	ESCC 3009, Para 8.7	1614 1648 1540 1635 (c)	6 6 20 (b) 20 (c)	0	(b) CECC testing qty (c) 1812 / AN14CD472KT2

Assembly Capability Subgroup	Solderability	☒	IEC 60068-2-58 Test Td	1627	4	0	Customer LAT3
	Permanence of Marking	☐	ESCC 24800				Not Applicable
Additional Tests	Insulation resistance at +125°C	☒	ESCC 3009 Iss. 1 Para 9.4.1.3	1614 1608 1641 1629	6 6 6 6	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.