



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: Resistors, Fixed, Chip, Thick Film, based on type CHPHR and CHPFR
 Executive Member: CNES Date: 27/10/2025

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

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ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S PERIODIC TESTING	COMPONENT SIMILAR
4001/026	01 & 06 02 & 07 - 03 & 08 - - - - - -	All values 50V to 500V	CHPHR0603 CHPHR0805 - CHPHR1206 - - 4001026034991F4 4001026034993F4 4001026034994F4 4001026036801F4 4001026035R60F6 4001026036802F4	- 4001026071210F4 4001026024990F4 4001026034991F4 4001026034993F4 4001026034994F4 4001026036801F4 4001026035R60F6 4001026036802F4	
	04 & 09 - - 05 & 10		CHPHR2010 - - CHPHR2512	4001026041471F4 4001026042670F4 4001026093322F4 -	
	11 & 16 12 & 17 13 & 18		CHPFR0603 CHPFR0805 CHPFR1206	- 400102612R2100F4 -	See also box 14 for Failure Rate endurance test vehicles
	14 & 19 15 & 20 -		CHPFR2010 CHPFR2512 -	- 400102615R1005G6 400102615R12R0F4	

Component Manufacturer VISHAY SA Division SFERNICE	2	Location of Manufacturing Plant(s) 199 Bld de la Madeleine BP 1159 06003 NICE CEDEX 1 - France	3	Date of original qualification approval: Date: 11/10/2011 Certificate Ref No. 314	4
	5	Deviations to LVT testing and Detail Specification used: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (supply details in Box 15) Detail(s): 4001/026 Issue: 7 Deviation from current Specifications: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details)	6		7
				Qualification Extension Report reference and date: 2025 Reconduction Qualification CHPHR.pdf 07/2025 Report Qualification Level R CHPFR 2025 CR TRB#34 + Activité HR Fin W29 2025	

Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)					8
Project Name	Testing Level	LAT	Date code	Quantity Delivered	
Alcatel Submarine Networks LTD TAS France ALTER TECHNOLOGY	-	None		Total ≈ 130 000	
TTI, Inc World Peace Int'l					
ECOMAL Europe GmbH Future Electronics Corp AVNET Europe BV Mouser Electronics Inc					

PID changes since start of qualification		9	Current PID	Verified by:	CNES	10
None <input type="checkbox"/>			Name of Executive Representative			
Minor* <input type="checkbox"/>			Ref No: PID CHP HR FR			
Major* <input checked="" type="checkbox"/> *Provide details in box: 19			Issue: 9 & 10 Date: 27/07/2021 Rev Date: 15/10/2024			

Current Manufacturing facilities surveyed by:		CNES	on	16/02/2023	11
		(Name of Executive Representative)			(Date)
Satisfactory:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Explain		
2023.0003306-CR-Fontaine- Report Reference: Visite -Vishay-Fevrier-2023					

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Executive Member: CNES

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

Ref. No's and purposes:

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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: 27/10/2025



Signature numérique
de Fontaine Lya
Date : 2025.10.27
11:10:36 +01'00'

L. FONTAINE

(Signature of the Executive Coordinator)

Continuation of Boxes above:

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Report 24 35 102, 21/08/2024

Failure Rate Endurance Testing subgroup of Chart F4 (8 000 hours completed);

CHPFR0603, 10,2 – 10k
CHPFR0805, 5,62k
CHPFR1206, 3,32k – 15k – 100k
CHPFR2010, 499 – 35k – 43k – 215k – 450k
CHPFR2512, 47 – 75 – 3,7k – 20k – 370k – 620k

40 parts for each lot.

Failure Rate Endurance Testing subgroup of Chart F4 (4 000 hours performed);

CHPFR0603, 2,37
CHPFR0805, 51,1 – 1M
CHPFR1206, 6,19 – 1,2k – 15k
CHPFR2010, 10, 270
CHPFR2512, 2k – 10k – 1M

40 parts for each lot.

Failure Rate Endurance Testing subgroup of Chart F4 (2 000 hours performed);

CHPFR0603, 4,99 – 4,02k – 665k
CHPFR0805, 5,11 – 50k – 5,1M
CHPFR1206, 11 – 21,5k – 71,5k
CHPFR2010, 15 – 2,2k – 33,2k
CHPFR2512, 450

60 parts for each lot.

Report 25 38 122, 19/09/2025

Failure Rate Endurance Testing subgroup of Chart F4 (8 000 hours completed);

CHPFR0603, 2,37 – 4,99 – 4020 – 665k
CHPFR0805, 5,1 – 51,1 – 50k – 1M – 5,1M
CHPFR1206, 6,19 – 11 – 1,2k – 21,5k – 15k – 71,5k
CHPFR2010, 10 – 15 – 270 – 2,2k – 33,2k
CHPFR2512, 450 – 2k – 10k – 1M

40 parts for each lot.

60 parts for each lot.

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Executive Member: CNES Date: 27/10/2025			
Non compliance to ESCC requirements: 15			
No.:	Specification	Paragraph	Non compliance
Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance: 16			
Executive Manager Disposition 17			
Application Approval: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Action / Remarks:			
<p style="text-align: right;">Al. Zadeh</p>			
Date: 30 November 2025		A. Zadeh: Head of the Avionics and EEE Division	



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 Executive Member: CNES Date: 27/10/2025

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

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Tests conducted in compliance with:

- ESCC 4001 generic specification; Chart F4 (for ESCC/QPL parts);
- or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

4001026071210F4 DC2311 4001026024990F4 DC2428 4001026034991F4 DC2424 4001026034993F4 DC2424 4001026034994F4 DC2434 4001026035R60F6 DC2446 4001026036802F4 DC2446 400102615R12R0F4 DC2444	400102612R2100F4 DC2344 4001026041471F4 DC2340 4001026093322F4 DC2326	4001026036801F4 DC 2405 4001026042670F4 DC 2406 400102615R1005G6 DC2405

Detail Specification reference: 4001/026

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	N° of Rejects	Comments if not performed. Comments on Rejection
Environmental /Mechanical Subgroup	Mounting	<input checked="" type="checkbox"/>	IEC 60115-1 clause 4.31	2344 2340 2326 2405 2406 2405 2446 2446 2444	5 5 5 5 5 5 5 5 5	0	
	Rapid Change Of Temperature	<input checked="" type="checkbox"/>	IEC 60068-2-14	2344 2340 2326 2405 2406 2405 2446 2446 2444	5 5 5 5 5 5 5 5 5	0	
	Vibration	<input type="checkbox"/>	IEC 60068-2-6				NA
	Climatic test Sequence	<input checked="" type="checkbox"/>	ESCC 4001, Para 8.10	2344 2340 2326 2405 2406 2405 2446 2446 2444	5 5 5 5 5 5 5 5 5	0	
	Seal Test	<input type="checkbox"/>	IEC 60068-2-17				NA
	Mounting	<input checked="" type="checkbox"/>	IEC 60115-1 clause 4.31	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	3 3 3 3 3 2 2 2 2 2 2 2 2 2	0	
	Robustness of Terminations	<input checked="" type="checkbox"/>	IEC 60068-2-21	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	3 3 3 3 3 2 2 2 2 2 2 2 2 2	0	

	Climatic test Sequence	<input checked="" type="checkbox"/>	ESCC 4001, Para 8.10	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	3 3 3 3 3 2 2 2 2 2 2 2 2	0	
	Seal Test	<input type="checkbox"/>	IEC 60068-2-17				NA
	Resistance to Soldering Heat	<input checked="" type="checkbox"/>	IEC 60068-2-20	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	3 3 3 3 3 2 2 2 2 2 2 2 2	0	
	Mounting	<input checked="" type="checkbox"/>	IEC 60115-1 clause 4.31	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	3 3 3 3 3 2 2 2 2 2 2 2 2		
	Climatic test Sequence	<input checked="" type="checkbox"/>	ESCC 4001, Para 8.10	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	3 3 3 3 3 2 2 2 2 2 2 2 2	0	
	Seal Test	<input type="checkbox"/>	IEC 60068-2-17				NA
	Mounting	<input type="checkbox"/>	IEC 60115-1 clause 4.31				NA
	Insulation Resistance	<input checked="" type="checkbox"/>	ESCC 4001, Para 8.3.1.2	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	3 3 3 3 3 2 2 2 2 2 2 2 2	0	
	Voltage Proof	<input checked="" type="checkbox"/>	ESCC 4001, Para 8.3.1.3	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	3 3 3 3 3 2 2 2 2 2 2 2 2	0	
	Mounting	<input checked="" type="checkbox"/>	IEC 60115-1 clause 4.31	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	15 15 15 15 15 15		
Endurance Subgroup	Operating Life	<input checked="" type="checkbox"/>	ESCC 4001, Para 8.13	2311 2428 2424 2424 2434 2344	15 15 15 15 15	-	See also FR data in periodic testing (See below and box 14)
	Seal Test	<input type="checkbox"/>	IEC 60068-2-17				NA

Assembly Capability Subgroup	Solderability	<input checked="" type="checkbox"/>	IEC 60068-2-20	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	6 6 6 6 6 2 2 2 2 2 2 2 2 2	0	
	Permanence of marking	<input type="checkbox"/>	ESCC 24800				NA
Failure Rate Subgroup	Operating Life 8 000 h	<input checked="" type="checkbox"/>	ESCC 4001, Para 8.13			0	5,60 M components.hours
	Seal Test	<input type="checkbox"/>	IEC 60068-2-17				NA
Additional Tests	Temperature Coefficient	<input checked="" type="checkbox"/>	ESCC 4001, Para 8.3.3	2311 2428 2424 2424 2434 2344 2340 2326 2405 2406 2405 2446 2446 2444	6 6 6 6 6 5 5 5 5 5 5 5 5	0	
		<input type="checkbox"/>					

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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.		