

Component Title: Resistors, Fixed, Chip, Thick Film, based on type CHPHR and CHPFR

Page 1 Appl. No.

T. Samery E.		Executive Membe	r: CNES	3		Da	te: 05/10/2017		314C	
Components (includ	ing series and families) submitted for Exte	ension of Qu	ualification A	oproval:					1
ESCC COMPONENT NO.	VARIANTS	RANGE O	RANGE OF COMPONENTS				TEST VEHICLE / S		COMPONEN SIMILAR	Т
4001/026	01 & 06 02 & 07 03 & 08	All values 50V to 500V			CHPHR0603 - CHPHR0805 - CHPHR1206	- 1	4001026015604 4001026061000 4001026026194 40010260251R1 4001026084753	F4 G4 F4		
	04 & 09 05 & 10				CHPHR2010 - CHPHR2512		4001026045624G4 4001026043902F4 40010260551R0F4 4001026052R49G6))) See box 14			
	11 & 16 12 & 17 13 & 18				AND THE RESERVE OF THE PARTY OF					
	14 & 19 15 & 20				CHPFR2010 CHPFR2512))			
Component M VISHAY SA Division SFERNICE	199 Bld de la BP 1159	BP 1159 06003 NICE CEDEX 1 - France			Date of original qualification approval: Date: 11/10/2011 Certificate Ref No.					
ESCC Specification: Maintenance of qua Generic: 4001 Detail(s): 400102	used: No 🖾 ' Deviation from	used: No Yes (supply details in Box 15) Deviation from current Specifications:			refere	ication Extension nce and date: t CAZ/17.001, Se	10 NO VORONO	7	7	
	ement or equivalent te					plication			1200.0	8
Project Name See report CAZ/17.0	Testing Levi	2 LA	AT	1713 (CHF	ate code PHR0805)	1	150	uantity Delive	ered	
		2	2 1635 (CHP2010 F 1719 (HCHP0603				25 250			
						-	Total CHP HR 1	10 000 0		
PID changes since :	start of qualification	1	9 Cu	rrent PID Ve	erified by:		CNES			10
None		Do.	f No. D	ID CHD HD EF		ame of Excutive R	epresentative)		
Minor* ⊠ Major* □	*Provide details in b	ox;	Iss	sue: 5	ID CHP HR FF 1/09/2017	`		Date:	05/10/2017	
Current Manufacturi	ing facilities surveyed	by:		SA and CNE		on		01/02/20		11
Satisfactory:	Yes ⊠	No 🗆	Explain	Executive Rep	nesentative)			(Date)		
Report Reference:	CNES DCT// 2017/02072, 0		_							

	APPLICAT	ON FOR EXTEN	ISION OF ESC	C QUALIFICAT	TION APPROVAL	Page 2	\Box
ECCC	Component title:				ype CHPHR and CHPFR		
ESCL	Compensation (100 total) comp, many many many constraints				*#.Edebas omedies Est 5:1	Appl. No.	
2	Executive Member:	Executive Member: CNES Date: 05/10/2017				314C	
						1:	2
Failure Analysis, DPA, NCCS ava	ilable: Yes	□ No		data)			
Def Note and assessment							
Ref. No's and purposes:							
The undersigned hereby certifies on behall that the appropriate documentation has be (except as stated in box 15;) - that the report content is the responsible executive Mem	en evaluated; - that fu orts and data are avail	II compliance to a able at the ESCC	all ESCC require Executive and	ements is evide therefore appli	es on behalf of listed herein.	menet	13
Date: 05/10/2017				-	JP. BUSSENO		1
				3(Signature of the Executive (coordinator)	
Continuation of Boxes above:							14
Report 17 09 101, 27/02/2017 Failure Rate Endurance Testing subgroup CHPFR0603, None CHPFR0805, 10k – 24,3k - 180k – 4,7M CHPFR1206, 10 - 681 - 15k – 20k - 681k CHPFR2512, 47 – 62k – 90k 30, 40 or 60 parts for each lot. Failure Rate Endurance Testing subgroup CHPFR0603, 470 – 9,09K – 147k 20 parts for each lot. Failure Rate Endurance Testing subgroup CHPFR0603, 47k CHPFR0803, 22 – 36k CHPFR1206, 1,27M CHPFR2512, 20 – 24,9k – 1M 20 parts for each lot.	of Chart F4 performed	d on 3 test vehicle	es (4 000 hours	completed);			

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Non comp	pliance to ESCC requirements:			15
No.:	Specification	Paragraph	Non compliance	
Additiona	I tasks required to achieve full compliance for	ESCC qualification or rationale for acceptability	of	16
noncomp	liance:			
Executive	Manager Disposition			T
				17
2100,000	on Approval: Yes No			
Action / R	kemarks:			
			2/2/1/2	
			1.1/1 4/1	
Date:			and wil	
			Signature, ESA Representative	



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

Tests conducted in compliance with:

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

(for ESCC/QML parts)

Tests vehicle identification/description:

4001026015604G4 5,6MOhm DC 1635 (0603) 4001026061000F4 100Ohm DC 1701 (0603, G) 4001026084753F4 475KOhm DC 1637 (1206, G) 4001026045624G4 5,62MOhm DC 1552 (2010) 4001026043902F4 39KOhm DC 1601 (2010)

4001026026194G4 6,19MOhm DC 1637 (0805) 40010260251R1F4 51,10hm DC 1709 (0805)

40010260551R0F4 51Ohm DC 1606 (2512) 4001026052R49G6 2,49Ohm DC 1707 (2512)

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
dn	Mounting	⊠	IEC 60115-1 clause 4.31	All but 1637	2 x 8 6 x 5	0	
	Rapid Change Of Temperature	⊠	IEC 60068-2-14	All but 1637	2 x 8 6 x 5	0	
	Vibration		IEC 60068-2-6				NA
	Climatic test Sequence	⊠	ESCC 4001, Para 8.10	All but 1637	2 x 8 6 x 5	0	
	Seal Test		IEC 60068-2-17				NA
ubgro	Mounting	⊠	IEC 60115-1 clause 4.31	All	8 x 2	0	
Environmental /Mechanical Subgroup	Robustness of Terminations	⊠	IEC 60068-2-21	All	8 x 2	0	
	Climatic test Sequence	⊠	ESCC 4001, Para 8.10	All	8 x 2	0	
	Seal Test		IEC 60068-2-17				NA
	Resistance to Soldering Heat	⊠	IEC 60068-2-20	All	8 x 2	0	
	Mounting	×	IEC 60115-1 clause 4.31	All	8 x 2	0	
	Climatic test Sequence	⊠	ESCC 4001, Para 8.10	All	8 x 2	0	
	Seal Test		IEC 60068-2-17				NA
	Mounting		IEC 60115-1 clause 4.31				NA
	Insulation Resistance	⊠	ESCC 4001, Para 8.3.1.2	All	8 x 5		
161	Voltage Proof	⊠	ESCC 4001, Para 8.3.1.3	All	8 x 5		
Endurance Subgroup	Mounting		IEC 60115-1 clause 4.31				Not performed
	Operating Life		ESCC 4001, Para 8.13				Replaced with FR data
ПÑ	Seal Test		IEC 60068-2-17				
Assembly Capability Subgroup	Solderability	×	IEC 60068-2-20	All	8 x 2		
	Permanence of marking		ESCC 24800				NA
Failure Rate Subgro up	Operating Life 8 000 h	⊠	ESCC 4001, Para 8.13	33 lots	23 x 40 3 x 60 7 x 90		11,3 M components.hours
	Seal Test		IEC 60068-2-17				NA
-							
Additional							



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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.					