

				APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL Page 1							1				
<b>ESCC</b>				Compone	nt Titl		Power STRH8		H100N10	) – ST	RH40N	6 – STRH100N6 –		Appl. N	lo.
	1100		- E	xecutive	Mem	ber:	CNE	s			D	ate: 01/09/2016		3030	:
Compone	Components (including series and families			ubmitted	for E	xtensi	on of Q	ualification	Approval	:					1
ES( COMP( N(	DNENT	VARIAN'	TS	RA	ANGE	OF C	ОМРО	NENTS	E	BASED	)	TEST VEHICLE / S		COMPONEN SIMILAR	١T
5205/021	0	1, 02		TO-25	4AA				STRH	100N1	0	ID33428001ZY			
5205/022	0	1, 02		TO-25	4AA				STRH	100N6	S		İ		
5205/023	0	1		SMD0.	.5				STRH	BN10		ID3353700CZW			
5205/024	0	1		SMD0.	.5				STRH	40N6			1		
Con	nponent Manu	facturer	2	L	ocatio	on of N	/lanufa	cturing Plant	(s)	3					4
STMicroel	ectronics			3, rue (	de Su	isse B	P4199	, 35041 Reni	nes Cede	ex	Date	of original qualification ap	proval	:	
											Date	14/10/2010			
											Certif	ficate Ref No. 303			
			5							6					7
	ecifications use			Deviati used:	ions to	b LVT	testing	and Detail S	pecificat	ion		fication Extension Report			
Generic:	5000	Issue:	6	No ⊠ Yes □ (supply details in Box				reference and date: Datapack STRH100N10HYG Lot ID33428001ZY_Chart							
	12000000000		-	15) Deviation from current Specifications:				F4 03/09/2015 Datapack STRH8N10SG Lot ID3353700CZW_Chart F4							
Detail(s):	5205/021 5205/022	Issue:	5 4	Deviati	ion fro	om cur	rent Sp	ecifications:			04/08/2016				
	5205/023 5205/024		4												
	0200/021		7	No	⊠	Yes		(Supply o	etails)						
											L				8
				esults du			validity				plicatio	n (those to ESCC listed fi	rst)		
	ct Name	Testing	Level	+	L	AT		was and a second	ate code	9		Quantity	Delive	red	
ASTRIUM	SPACE							1537A							
				_							_				
DID :			Some S	ı		_									
None None	es since start	of qualification	on	9 Current PID Verified by:				CNES 10  Name of Excutive Representative							
Minor*	⊠			Ref No: 8097046 (gener				ric) Rev 15 and 8212222 (specific Mosfet) rev 12							
Major*		ovide details	s in box:					Date: 28/07/2016							
							Re	v Date:							
Current M	an <mark>u</mark> facturing fa	cilities cus	wod by					ESA & CNES	,				1001001		11
Currentivia	andiaciding ia	Cillies Surve	eyeu by.			/Nor				tions.	on		08/201	ь	
Satisfactor	v.	Yes ⊠		No		.//53	ne or E xplain	xecutive Re	vieseura	uve)		(	(Date)		
Jansiacioi	y.	169 🛛		NO		_	vhiqiii								
D		E000 0=		0045.5			00.5								
Report Re	rerence:	ESCC-ST	MF-AUD	-2016-01	- DC	I_AQ	_CQ-20	016-0013092							

	APPLICAT	ION FOR EXT	ENSION	OF ESCC QUAL	IFICATI	ON APPROVAL	Page	2
<b>ESCC</b>	Component title: Power Mosfet STRH100N10 - STRH40N6 - STRH8N10					TRH100N6 –	Appl. No.	
	Executive Member:	CNES			Date:	01/09/2016	3030	;
								12
Failure Analysis, DPA, NCCS ava	ilable: Yes	□ No	$\boxtimes$	(Supply data)				
Ref. No's and purposes:								
	_							13
The undersigned hereby certifies on behalf that the appropriate documentation has bee (except as stated in box 15;) - that the repo	en evaluated; - that ful rts and data are availa	I compliance to able at the ESC	all ESC	CC requirements is outive and therefor	s eviden	s on behalf of	_	
CNES as the responsible Executive Member	er for ESCC qualificati	on status to be	extend	ed to the compone	ent(s) lis	ted herein.	Some	
Date: 07/09/2016						JP. BUSSENOT	Γ	_
					(S	ignature of the Executive C	coordinator)	
Continuation of Boxes above:				The same				14
								1
								- 1



Component title: Power Mosfet STRH100N10 – STRH40N6 – STRH100N6 – STRH8N10

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40		Executive Member	: CNES	Date:	01/09/2016	303C		
Non comp	pliance to ESCC requirements:						15	
No.:	Specification Paragraph				Non compliance			
					Non sompliance			
Additional noncompl	I tasks required to achieve full con	npliance for ESCC q	ualification or rationale for acceptability	of			16	
	Manager Disposition						17	
Application / R		No □			DI~			
Date:					ture ESA Representative			



Power Mosfet STRH100N10 – STRH40N6 – STRH100N6 – STRH8N10 Component Title:

Date: 01/09/2016

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

Tests conducted in compliance with:

ESCC 5000 generic specification; Chart F4 (for ESCC/QPL parts); or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

STRH100N10HYG Lot ID33428001ZY DC1451A	Full Chart F4
STRH8N10SG Lot ID3353700CZW DC1549B	Full Chart F4

Executive Member: CNES

## Detail Specification reference:

Chart F4	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	N° of Rejects	Comments if not performed. Comments on Rejection
group	Mechanical shock	$\boxtimes$	MIL-STD-750 TM2016	1451A 1549B	15 +15	0	
	Vibration	$\boxtimes$	MIL-STD-750 TM2056	1451A 1549B	15 +15	0	
	Constant acceleration	×	MIL-STD-750 TM2006	1451A 1549B	15 +15	0	
	Seal Fine leak Gross leak	×	MIL-STD-750 TM1071	1451A 1549B	15 +15	0	
cal Sub	Electrical Measurement	×	Intermediate and End- Point Electrical Measurements	1451A 1549B	15 +15	0	
nanic	External Visual	$\boxtimes$	ESCC Basic Spec 20500	1451A 1549B	15 +15	0	
al/Mec	Thermal shock		MIL-STD-750 TM1056	Click here to enter text.			Only applicable to axial lead glass diodes
nent	Temperature Cycling	⊠	MIL-STD-750 TM1051	1451A 1549B	15 +15	0	
Environmental/Mechanical Subgroup	Moisture Resistance	×	MIL-STD-750 TM1021	1451A 1549B	15 +15	0	
	Seal Fine leak Gross leak	×	MIL-STD-750 TM1071	1451A 1549B	15 +15	0	
	Electrical Measurement	×	Intermediate and End- Point Electrical Measurements	1451A 1549B	15 +15	0	
	External Visual	$\boxtimes$	ESCC Basic Spec 20500	1451A 1549B	15 +15	0	
	Operating Life	$\boxtimes$	ESCC 5000 Para. 8.19	1451A 1549B	15 +15	0	
Endurance Subgroup	Electrical Measurement	×	Intermediate and End- Point Electrical Measurements	1451A 1549B	15 +15	0	
Endu	Seal Fine leak Gross leak	$\boxtimes$	MIL-STD-750 TM1071	1451A 1549B	15 +15	0	
	External Visual Inspection	$\boxtimes$	ESCC Basic Spec 20500	1451A 1549B	15 +15	0	
	Permanence of Marking		ESCC Basic Spec 24800				Not applicable on Laser marking
oly up	Terminal Strength	$\boxtimes$	ESCC 5000 Para. 8.18	1451A 1549B	5 + 5	0	
Assembly Capability Subgroup	Internal Visual	×	ESCC Basic Spec 20400	1451A 1549B	5 + 5	0	
As Ca Su	Bond Strength	×	MIL-STD-750 TM 2037	1451A 1549B	3 + 3	0	
	Die Shear	⊠	MIL-STD-750 TM 2017	1451A 1549B	3 + 3	0	



Component title:

Power Mosfet STRH100N10 - STRH40N6 - STRH100N6 - STRH8N10

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Executive Member: CNES					Date: 01/09/2016 303C				
Ch art F4	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	N° of Rejects	Common performents of	ents if not ormed. n Rejection	
la l					_				
Additional Tests									
₹' [									

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<b>国际新疆的</b>			
Additional Comments			



Box 22

Additional Comments.

## APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Date: 01/09/2016

Power Mosfet STRH100N10 – STRH40N6 – STRH100N6 – STRH8N10 Component title:

CNES Executive Member:

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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.