



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: TRANSISTORS,POWER, MOSFET, N-CHANNEL,BASED ON TYPE BUY **CS**

Executive Member: DLR

Date: 10/11/2019

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	COMPONENT SIMILAR
5205026	01		BUY25CS12J01 BUY25CS04J01	BUY25CS12J-01(ES)	Y
5205027	01		BUY25CS54A01	(see page 4)	
5205028	01		BUY10CS12J01		
5205030	01 02 03		BUY25CS12K01 BUY25CS45B01	BUY25CS12K-01(ES)	Y

Component Manufacturer Infineon Technologies AG	2	Location of Manufacturing Plant(s) Am Campeon 1-12 D- 85579 Neubiberg Germany	3	Date of original qualification approval: Date: 28/09/2012 Certificate Ref 319 No.	4
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ESCC Specifications used for Maintenance of qualification testing: Generic: 5000 Issue: 08 Detail(s): 5205/030 Issue: 01 5205/026 02 5205/032 01	5	Deviations to LVT testing and Detail Specification used: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (supply details in Box 15) Deviation from current Specifications: No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (Supply details)	6	Qualification Extension Report reference and date: 1922LR14, Iss. 1, Sep 2019 1922LR15, Iss. 1, Sep 2019 1721LR13, Iss. 1b, Sep 2019 1721LR14, Iss. 1b, Sep 2019 1721LR15, Iss. 1b, Sep 2019	7
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Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)

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Project Name	Testing Level	LAT	Date code	Quantity Delivered

PID changes since last MoQ None <input type="checkbox"/> Minor* <input checked="" type="checkbox"/> Major* <input type="checkbox"/>	9	Current PID Verified by: Burak Gökgöz Name of Executive Representative Generic PID: A63500-GEPID-P000, Issue 2d, 25.09.2019 Detail PID: A63500-L5491-P000, Issue 8, 25.09.2019	10
*Provide details in box: Gen. PID: 650V Power MOSFET device is implemented Det. PID: 650V Power MOSFET device is implemented			

Current Manufacturing facilities surveyed by: Thilo Kaupisch on 17-18/10/2018
(Name of Executive Representative) (Date)

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Satisfactory: Yes No Explain

Report Reference: IFX-AUD-2018



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

Date: 10/11/2019

Burak Gökgöz
(Signature of the Executive Coordinator)

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Continuation of Boxes above:



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Non compliance to ESCC requirements:

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No.:	Specification	Paragraph	Non compliance

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Executive Manager Disposition

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Application Approval: Yes No

Action / Remarks:

Date: 27.01.2020

B. Schade, Head of ESA Product Assurance and Safety Department



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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);

Tests vehicle identification/description:

1721LR13b	BUY06CS80A-01, EnvMechSG, EndSG, 1903C;
1721LR14b	BUY06CS80A-01, EnvMechSG, EndSG, 1903B
1922LR14	BUY25CS12K-01, EnvMech SG, 1848B
1721LR15b	BUY06CS45B-01, AC SG, 1905C
1922LR15	BUY25CS12J-01, AC SG, 1845C

Chart F4	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	N° of Rejects	Comments if not performed. Comments on Rejection
Environmental/Mechanical Subgroup	Mechanical shock	<input checked="" type="checkbox"/>	MIL-STD-750 TM2016	1903C 1903B 1848B	16 6 17	0 0 0	
	Vibration	<input checked="" type="checkbox"/>	MIL-STD-750 TM2056	1903C 1903B 1848B	16 6 17	0 0 0	
	Constant acceleration	<input checked="" type="checkbox"/>	MIL-STD-750 TM2006	1903C 1903B 1848B	16 6 17	0 0 0	
	Seal Fine leak Gross leak	<input checked="" type="checkbox"/>	MIL-STD-883 TM1014	1903C 1903B 1848B	16 6 17	0 0 0	See Appendix 'A' in ESCC Detail Specifications – Deviations from Chart F4
	Electrical Measurement	<input checked="" type="checkbox"/>	Intermediate and End-Point Electrical Measurements	1903C 1903B 1848B	16 6 17	0 0 0	
	External Visual	<input checked="" type="checkbox"/>	ESCC Basic spec 20500	1903C 1903B 1848B	16 6 17	0 0 0	
	Thermal shock	<input type="checkbox"/>	MIL-STD-750 TM1056				Temperature Cycling performed
	Temperature Cycling	<input checked="" type="checkbox"/>	MIL-STD-883 TM1010	1903C 1903B 1848B	10 10 17	0 0 0	See Appendix 'A' in ESCC Detail Specifications – Deviations from Chart F4
	Moisture Resistance	<input checked="" type="checkbox"/>	MIL-STD-750 TM1021	1903C 1903B 1848B	10 10 17	0 0 0	
	Seal Fine leak Gross leak	<input checked="" type="checkbox"/>	MIL-STD-883 TM1014	1903C 1903B 1848B	10 10 17	0 0 0	See Appendix 'A' in ESCC Detail Specifications – Deviations from Chart F4
	Electrical Measurement	<input checked="" type="checkbox"/>	Intermediate and End-Point Electrical Measurements	1903C 1903B 1848B	10 10 17	0 0 0	
	External Visual	<input checked="" type="checkbox"/>	ESCC Basic spec 20500	1903C 1903B 1848B	10 10 17	0 0 0	
Endurance Subgroup	Operating Life	<input checked="" type="checkbox"/>	ESCC 5000 Para. 8.19	1903C 1903B	18 17	0 0	
	Electrical Measurement	<input checked="" type="checkbox"/>	Intermediate and End-Point Electrical Measurements	1903C 1903B	18 17	0 0	
	Seal Fine leak Gross leak	<input checked="" type="checkbox"/>	MIL-STD-883 TM1014	1903C 1903B	18 17	0 0	See Appendix 'A' in ESCC Detail Specifications – Deviations from Chart F4
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic spec 20500	1903C 1903B	18 17	0 0	
Assembly Capability Subgroup	Permanence of Marking	<input type="checkbox"/>	ESCC Basic Spec 24800				n.a. due to laser marking
	Terminal Strength	<input checked="" type="checkbox"/>	ESCC 5000 Para. 8.18	1905C	6	0	
	Internal Visual	<input checked="" type="checkbox"/>	ESCC Basic Spec 20400	1905C 1845C	6 6	0 0	
	Bond Strength	<input checked="" type="checkbox"/>	MIL-STD-750 TM 2037	1905C 1845C	6 6	0 0	
	Die Shear	<input checked="" type="checkbox"/>	MIL-STD-750 TM 2017	1905C 1845C	6 6	0 0	



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Component title: TRANSISTORS, HIGH ELECTRON MOBILITY, GALLIUM ARSENIDE, MICROWAVE, LOWNOISE, SMALL SIGNAL, BASED ON TYPE CFY67

Appl. No.

Executive Member: DLR

Date 10/11/2019

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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.