

		APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL			Page 1
Component Title: DIODES, MICROWAVE, SILICON, SCHOTTKY, GENERAL PURPOSE, BASED ON TYPES BAS40 AND BAS70, <i>BXY42, BXY43, BXY44</i>		Executive Member: DLR			Date: 02/05/2016 Appl. No. 227 F
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
5512/020	01 03		BAS40	BAS40-T1(ES)	
<i>5513/017</i>	<i>01, 02</i>		<i>BXY42</i>	—	Y
<i>5513/030</i>	<i>01, 02, 05, 06</i>		<i>BXY43/44</i>	—	Y
Component Manufacturer Infineon Technologies AG		Location of Manufacturing Plant(s) Am Campeon 1-12 D- 85579 Neubiberg Germany		Date of original qualification approval: Date: 01/09/1996 Certificate Ref No. 227	
ESCC Specifications used for Maintenance of qualification testing: Generic: 5010 Issue: 02 Detail(s): 5512/020 Issue: 03		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)		Qualification Extension Report reference and date: 1609LR12a Iss 1a, May 2016	
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	
PID changes since start of qualification None <input checked="" type="checkbox"/> Minor* <input type="checkbox"/> Major* <input type="checkbox"/> *Provide details in box:		Current PID Verified by: <u>G. Joormann</u> Name of Executive Representative Ref No: A63500 – D336 – P000 – * – 76K5 Issue: 1 Date: 26/04/2016 Rev Date: 01/10/2015			
Current Manufacturing facilities surveyed by: <u>G. Joormann (DLR)</u> on 08/10/2016 (Name of Executive Representative) (Date) Satisfactory: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Explain Report Reference: <u>IFX-AUD-2015</u>					

	<p align="center">APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL</p> <p>Component title: DIODES, MICROWAVE, SILICON, SCHOTTKY, GENERAL PURPOSE, BASED ON TYPES BAS40 AND BAS70, <i>8xy42, 8xy43, 8xy44</i></p> <p>Executive Member: DLR Date: 02/05/2016</p>	<p>Page 2</p> <p>Appl. No. 227 F</p>
<p align="right">12</p>		
<p>Failure Analysis, DPA, NCCS available: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Supply data)</p>		
<p>Ref. No's and purposes:</p>		
<p align="right">13</p>		
<p>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 _____ as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.</p> <p>Date: 02/05/2016</p> <p align="right">I.A. G. Joormann (Signature of the Executive Coordinator)</p>		
<p>Continuation of Boxes above:</p>		
<p align="right">14</p> <p><i>ADDITIONAL SPECIFIC PIDS APPLY:</i></p> <p><i>A63500-D306-A1-* -76K5 (8xy42)</i></p> <p><i>A63500-T1580B-P000-* -76K5 (8xy43, 44)</i></p> <p><i>GENERIC PID UPDATED ALSO:</i></p> <p><i>A63500-GEPID-P000-* -76K5 1C MAY'86</i></p>		

	APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL	Page 3
Component title: DIODES, MICROWAVE, SILICON, SCHOTTKY, GENERAL PURPOSE, BASED ON TYPES BAS40, AND BAS70, <i>BXY42, BXY43,</i>		Appl. No.
Executive Member: DLR <i>BXY44</i>		Date: 02/05/2016 227 F

Non compliance to ESCC requirements: 15

No.:	Specification	Paragraph	Non compliance
1	ESCC 5010	CHART F4	<i>no periodic repetition of Endurance SG.</i>

Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance: 16


The approved PID describes The agreed methodology for maintenance of qualification, regarding similarity, in § 7.


Executive Manager Disposition 17

Application Approval: Yes ☒ No ☐
 Action / Remarks:

CERTIFICATE 227 IS RE-SCOPED FROM THIS EXTENSION TO INCLUDE DEVICES/VARIANTS PREVIOUSLY QUALIFIED UNDER CERTIFICATES 224, 227 AND 236 (224 AND 236 ARE THEREFORE NO LONGER VP-ISSUED).

Date:


 Signature, ESA Representative

	APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL	Page 4
Component Title: DIODES, MICROWAVE, SILICON, SCHOTTKY, GENERAL PURPOSE, BASED ON TYPES BAS40 AND BAS70, BX442, BX443, BM44		Appl. No.
Executive Member: DLR		Date: 02/05/2016 227 F

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

Tests conducted in compliance with:

- ESCC 5010 generic specification; Chart V (for ESCC/QPL parts);
- Or PID-TFD BAS40&BAS70(ES) (for ESCC/QML parts)

Tests vehicle identification/description:

BAS40-T1(ES)	

Detail Specification reference: 5512 020 / 03

18

Chart V	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental/Mechanical Subgroups	Thermal Shock Test	<input checked="" type="checkbox"/>	ESCC 5010 Para. 9.5.2	1505A	8	0	
	Shock Test	<input type="checkbox"/>	MIL-STD-750 Test Method 2016				n.a. acc. Detail Spec
	Vibration Test	<input type="checkbox"/>	MIL-STD-750 Test Method 2056				n.a. acc. Detail Spec
	Constant Acceleration	<input type="checkbox"/>	MIL-STD-750 Test Method 2006				n.a. acc. Detail Spec
	Seal Test	<input type="checkbox"/>	MIL-STD-750 Test Method 1071				n.a. acc. Detail Spec
	Moisture Resistance	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 1021	1505A	8	0	
	Seal Test	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 1071	1505A	8	0	
	Electrical Measurements at Room Temp.	<input checked="" type="checkbox"/>	Table 2 of the Detail Specification	1505A	8	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	1505A	8	0	
Endurance Subgroup *	Operating Life	<input type="checkbox"/>	MIL-STD-750 Test Method 1026				Former data from Wafer available
	Electrical Measurements during Endur. Test	<input type="checkbox"/>	Table 6 of the Detail Specification				Former data from Wafer available
	External Visual Inspection	<input type="checkbox"/>	ESCC Basic Specification No. 20500				Former data from Wafer available

LAT2 ON ACTUAL WAFER WAS PERFORMED SATISFACTORILY ON DC.9442A.



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component title: DIODES, MICROWAVE, SILICON, SCHOTTKY, GENERAL
PURPOSE, BASED ON TYPES BAS40, AND BAS70, BXY42,
BXY43, BXY44

Executive Member: DLR

Date: 02/05/2016

Page 5

Appl. No.

227 F

Chart V	Test	Tick when done	Conditions	Date Code Diffusion Lot	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Electrical Subgroup – Electrical Measurements	Electrical Measurements at Room Temp.	<input checked="" type="checkbox"/>	Table 2 of the Detail Specification	1505A	2	0	
	Electrical Measurements at High & Low Temp's	<input checked="" type="checkbox"/>	Table 3 of the Detail Specification	1505A	2	0	
	External Visual Inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20500	1505A	2	0	
	Special Testing	<input type="checkbox"/>	The Detail Specification				n.a. acc. Detail Spec
Electrical Subgroup – Assembly – Assembly Capability Tests	Solderability Test	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 2026	1505A	2	0	
	Permanence of Marking	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 24800	1505A	2	0	
	Terminal Strength	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 2036	1505A	2	0	
De-encapsulation Tests	Internal visual inspection	<input checked="" type="checkbox"/>	ESCC Basic Specification No. 20400	1505A	8	0	
	Bond Strength	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 2037	1505A	8	0	
	Die Shear	<input checked="" type="checkbox"/>	MIL-STD-750 Test Method 2017	1505A	8	0	



APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component title: DIODES, MICROWAVE, SILICON, SCHOTTKY, GENERAL PURPOSE, BASED ON TYPES BAS40 AND BAS70, 1BY442
Executive Member: DLR 8XY43, 8XY44 Date: 02/05/2016

Page 7

Appl. No.

227 F

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.