Product Qualification Report

BGT60LTR11AIP

60 GHz radar sensor

Description

This product qualification report describes the characteristics of the product with respect to quality and reliability.

The qualification sample selection was done on production lots which were manufactured and tested on standard production processes and meet the defined requirements.

The qualification test results of those products as outlined in this document are based on **JEDEC JESD47** for target applications and may reference existing qualification results of similar products. Such referencing is justified by the structural similarity of the products.

Qualification Assessment

Fully qualified according to **JEDEC JESD47**and assessed as PASS.

For further information about comparable products, please contact the nearest Infineon Technologies office (www.infineon.com).

BGT60LTR11AIP
PG-UF2BGA-42-1
MSL: 3; 260 °C

qualified 2021

Electrical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Electrical Parameter Assessment JESD86	ED	Ta = -20 °C/ 25 °C/ 85 °C		3 x 10	0 / 30	PASS
High Temperature Operating Life JESD22-A108	HTOL	T_a = 125 °C Vcc ≥ Vcc_{max}	1000 h	3 x 77	0 / 231	PASS
Early Life Failure Rate JESD74, JESD22-A108	ELFR	T_a = 125 °C $V_{cc_}$ ≥ V_{cc_max}	48 h	3 x 800	0 / 2400	PASS
Electrostatic Discharge Human Body Model ANSI/ESDA/JEDEC JS-001	ESD-HBM	Class 1C <2KV HBM		1 x 3	0 / 3	PASS
Electrostatic Discharge Charged Device Model ANSI/ESDA/JEDEC JS-002	ESD-CDM	Class C2A All pins: 500 V		1 x 3	0 / 3	PASS
Latch Up JESD78	LU	T_a = 85 °C $I_{trigger}$ = 150 mA		1 x 3	0 / 3	PASS

Environmental Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
High Temperature Storage Life JESD22-A103	HTSL	T_a = 150 °C	1000 h	3x 25	0 / 75	PASS
Pre-conditioning JESD22-A113, J-STD020	PC	Soak acc. MSL 3, 3x reflow, 260 °C		3 x 75	0 / 225	PASS
Temperature Cycling JESD22-A104	TC*	-55 °C to 125 °C	1000 cycles	3 x 25	0 / 75	PASS
Temperature-Humidity-Bias JESD22-A110	HAST*	T_a = 85 °C rh = 85 % V_{cc} ≥ V_{cc_max}	264 h	3 x 25	0 / 75	PASS
Unbiased Highly Accelerated Stress Test JESD22-A118	UHAST*	T_a = 110 °C rh = 85 %	264 h	3 x 25	0 / 75	PASS

Mechanical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Physical Dimensions JESD22-B100 and B108	PD			3 x 10	0 / 30	PASS
Solderability IEC60068-2-58	SD			3 x 22	0 / 66	PASS
Solder Ball Shear JESD22-B117	SBS			1x5 (30 balls per unit)	0 / 5	PASS

Notes:
* For SMD devices reliability stress tests performed after preconditioning test (PC) according to JESD22-A113.

Trademarks
All referenced product or service names and trademarks are the property of their respective owners.

Published by

Infineon Technologies AG

81726 München, Germany

© 2024 Infineon Technologies AG. All Rights Reserved.

Do you have a question about this document?

Email: erratum@infineon.com

Document reference

n.a.

IMPORTANT NOTICE

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie").

With respect to any examples, hints or any typical values stated herein and/or any information regarding the application of the product, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

In addition, any information given in this document is subject to customer's compliance with its obligations stated in this document and any applicable legal requirements, norms and standards concerning customer's products and any use of the product of Infineon Technologies in customer's applications.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer's technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

For further information on the product, technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies office (**www.infineon.com**).

WARNINGS

Due to technical requirements products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies' products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.