Product Qualification Report

BGT60ATR24C

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 **AEC-Q100** 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 **AEC-Q100** and assessed as PASS.

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

BGT60ATR24C **qualified 2021**
PG-VFWLB-76-1
MSL: 1; 260 °C

Electrical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Electrical Parameter Assessment AEC Q100-009 AEC Q003	ED	-40 °C, 25 °C, 105 °C		3 x 30	0 / 90	PASS
High Temperature Operating Life JESD22-A108	HTOL	T_a = 125 °C $V_{dd} \geq V_{dd_max}$	1000 h	3 x 77	0 / 231	PASS
Early Life Failure Rate AEC Q100-008	ELFR	T_a = 125 °C $V_{dd} \geq V_{dd_max}$	48 h	3 x 800	0 / 2400	PASS
Electrostatic Discharge Human Body Model AEC Q100-002	ESD-HBM	Class 1C 1000 V to < 2000 V		1 x 3	0 / 3	PASS
Electrostatic Discharge Charged Device Model AEC Q100-011	ESD-CDM	Class C2A All pins: 500 V Corner Pins: 750 V		1 x 3	0 / 3	PASS
Latch Up AEC Q100-004	LU	T_a = 125 °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	1 x 45	0 / 45	PASS
Pre-conditioning JESD22-A113, J-STD020	PC	Soak acc. MSL 1, 3x reflow, 260 °C		3 x 231	0 / 693	PASS
Temperature Cycling JESD22-A104	TC*	-55 °C to 125 °C	1000 cycles	3 x 77	0 / 231	PASS
Temperature-Humidity-Bias JESD22-A101	THB*	T_a = 85 °C rh = 85 % $V_{dd} \geq V_{dd_max}$	1000 h	3 x 77	0 / 231	PASS
Unbiased Highly Accelerated Stress Test JESD22-A118	UHAST*	T_a = 110 °C rh = 85 %	264 h	3 x 77	0 / 231	PASS

Mechanical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Physical Dimensions JESD22-B100 and B108 AEC Q003	PD			3 x 10	0 / 30	PASS
Solderability J-STD-002	SD			1 x 15	0 / 15	PASS

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

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Document reference

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