Product Qualification Report

BGA824N6

Silicon Germanium Low Noise Amplifier for Global Navigation Satellite Systems (GNSS)

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** 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** for **Industrial Applications** and assessed as PASS

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

BGA824N6
PG-TSNP-6-2
MSL: 1; 260 °C

qualified 2022

Electrical Stress Test Results:

Test Description	Abbr.	Condition	Duration	Lots/SS	Fail/Qty	Result
Electrical Parameter Assessment JESD86	ED	-40 °C, 25 °C, 85 °C		3 x 10	0 / 30	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 JESD22-A108, JESD74	ELFR	T_a = 125 °C $V_{dd} \geq V_{dd_max}$	48 h	3 x 1000	0 / 3000	PASS
Electrostatic Discharge Human Body Model JS-001	ESD-HBM	Class 2 2000 V to < 4000 V		1 x 3	0 / 3	PASS
Electrostatic Discharge Charged Device Model JS-002	ESD-CDM	Class C3 ≥ 1000 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	3 x 25	0 / 75	PASS
Pre-conditioning JESD22-A113, J-STD020	PC	Soak acc. MSL 1, 3x reflow, 260 °C		3 x 75	0 / 225	PASS
Temperature Cycling JESD22-A104	TC*	-40 °C to 125 °C	1000 cycles	3 x 25	0 / 75	PASS
Highly Accelerated Temperature and Humidity Stress Test JESD22-A110	HAST*	T_a = 130 °C rh = 85 % $V_{dd} \geq V_{dd_max}$	96 h	3 x 25	0 / 75	PASS
Unbiased Highly Accelerated Stress Test JESD22-A118	UHAST*	T_a = 130 °C rh = 85 %	96 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	PD			1 x 30	0 / 30	PASS
Solderability J-STD-002	SD			3 x 22	0 / 66	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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