



Package Qualification Report

CMD132P3 QFN Surface Mount Package

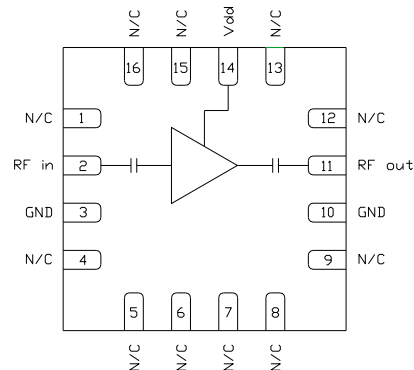
Description

This qualification report will detail the selected product and testing used to qualify our CMD132P3 to various environmental stresses. Sample devices were electrically tested before and after being subjected to various procedures specified in JEDEC Standard JESD-22. Please refer to Table 1 for the actual specifications and test conditions used. No degradation in product performance following the identified screening was noticed

Product Selected

The CMD132P3 is a broadband GaAs MMIC low noise amplifier housed in a leadless 3x3 mm plastic surface mount (SMT) package. The CMD132P3 is ideally suited for microwave radios and C and X band applications where small size and low power consumption are critical design requirements.

Please refer to our product datasheets for detailed device information.



Electrical Performance - $V_{dd} = 3.6\text{ V}$, $T_A = 25\text{ }^\circ\text{C}$

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	5 - 8.5			8.5 - 11			GHz
Gain	19	22	25	18	21	24	dB
Noise Figure		1.7	2.3		1.3	1.7	dB
Supply Current	21	30	39	21	30	39	mA

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Table 1: Qualification Tests & Results

<u>Test</u>	<u>Sample Size</u>	<u>Specification</u>	<u>Test Conditions</u>	<u>Inspection</u>	<u>Test Results</u>
Bias Life Test	80	JESD22-A108	150°C (Junction), 3.6V, 1000 hours	Electrical	PASSED
Accelerated Moisture Resistance, unbiased autoclave	77	JESD22-A102, Condition C	121°C ± 2°C, 100% RH, 29.7 psia	Electrical	PASSED
Highly Accelerated Temperature and Humidity Stress Test (HAST)	80	JESD22-A110	Preconditioning: 3x cycles of 235°C per JESD22-A113 Test Condition: 130°C, 85% RH, 3.6Vdc, 96 hours	Electrical	PASSED
Temperature Cycling	77	JESD22-A104, Condition G	Preconditioning: 3x cycles of 235°C per JESD22-A113 Test Condition: -40°C to +125°C, 1000 cycles	Electrical	PASSED
Thermal Shock	77	JESD22-A106	Test Condition: -40°C to +125°C, 15 minute dwells, 100 cycles	Electrical	PASSED
Physical Dimensions	15	JESD22-B100B	Laboratory Ambient	Visual	PASSED
Marking Permanency	25	JESD22-B107D	Laboratory Ambient	Visual	PASSED
Solderability	5	J-STD-002-D, Test A, SnPb Solder	1hr Steam Conditioned prior to testing	Visual	PASSED

Conclusions

- ◆ All material passed the criteria specified in the above Table 1. The conclusion of this reliability screening is that our 3x3mm QFN plastic molded surface mount package style is qualified to the specified environmental tests.