



Qualification Description	Qualification of RFVA0016 for production.		
Package Type	5.2 mm x 5.2 mm Module	Process Technology	InGaP HBT / SOI CMOS / AlGaAs HBT
Qualification #	11-QUAL-1635	Date Issued	February 20, 2012

Qualification Description

The purpose of the qualification outlined in this document is to ensure that the RFVA0016 is a reliable product and meets the RFMD requirements for product quality.

Qualification Methodology

The RFMD qualification process consists of a series of tests designed to stress various potential failure mechanisms. The testing is performed to ensure that RFMD's products are robust against potential failure modes that could arise from the various failure mechanisms being stressed. The qualification testing is based on JEDEC and MIL-STD test methods common to the semiconductor industry. Where applicable, qualification data taken on similar devices is used to demonstrate that the qualification requirements will be met.

Qualification Results

The RFVA0016 has passed all of the defined qualification requirements listed below and has been qualified as a reliable product. The RFDA0045 has been subjected to various device level and package level tests and has demonstrated reliable performance. The qualification test results are listed in the table below.

Qualification Tests

Test Name	Test Standard and Conditions	# Samples x # Lots	Test Results		
Temperature Characterization	JESD86 +25°C, -40°C, +85°C	2 x 3 lots	Pass		
High Temperature Operating Life	JESD22-A108 125°C, 1000 hours	20 x 3 lots	Pass		
Steady State Temperature Humidity Bias Life Test	JESD22-A101 +85°C, 85%RH, 1000 hours Preconditioning per JESD22-A113 MSL3	25 x 3 lots	Pass		
ESD Human Body Model	JESD22-A114	3 x 1 lot	Pass 1000V	Class 1C	
ESD Charged-Device Model	JESD22-C101	3 x 1 lot	Pass 1000V	Class IV	
Moisture Sensitivity Level Classification	J-STD-20 MSL3 30°C, 60% RH, 192 Hour Soak 3x Reflow at 260°C	25 x 3 lots	Pass	MSL3	260°C
Temperature Cycling	JESD22-A104 Test Condition G : -40°C to +125°C 850 cycles Preconditioning per JESD22-A113 MSL3	25 x 3 lots	Pass		
Temperature Cycling on Board	JESD22-A104 Test Condition G : -40°C to +125°C 500 cycles Preconditioning per JESD22-A113 MSL3	22 x 3 lots	Pass		
High Temperature Storage Life	JESD22-A103 150°C, 1000 Hours Preconditioning per JESD22-A113 (Reflow only)	25 x 3 lots	Pass		
Die Shear	minimum 263 g, 963 g, 415 g	10 x 3 lots	Pass		
Ball Shear	minimum 20 g	10 x 3 lots	Pass		
Bond Pull	minimum 3 g	10 x 3 lots	Pass		
Solderability	JESD22-B102 Condition C : 8 Hour Steam Age Pb-Free Process Method 1 : Dip and Look	22 x 3 lots	Pass		
Conclusion	This product has passed the RFMD Qualification Requirements for production.				