

HMC369* PRODUCT PAGE QUICK LINKS

Last Content Update: 12/18/2017

COMPARABLE PARTS

View a parametric search of comparable parts.

EVALUATION KITS

- HMC369LP3 Evaluation Board

DOCUMENTATION

Data Sheet

- HMC369 Data Sheet

TOOLS AND SIMULATIONS

- HMC369 S-Parameter

REFERENCE MATERIALS

Product Selection Guide

- RF, Microwave, and Millimeter Wave IC Selection Guide 2017

Quality Documentation

- Package/Assembly Qualification Test Report: 16L 3x3mm QFN Package (QTR: 11003 REV: 02)
- Package/Assembly Qualification Test Report: LP2, LP2C, LP3, LP3B, LP3C, LP3D, LP3F, LP3G (QTR: 2014-0364)
- Package/Assembly Qualification Test Report: Plastic Encapsulated QFN (QTR: 05006 REV: 02)
- Semiconductor Qualification Test Report: GaAs HBT-A (QTR: 2013-00228)

DESIGN RESOURCES

- HMC369 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all HMC369 EngineerZone Discussions.

SAMPLE AND BUY

Visit the product page to see pricing options.

TECHNICAL SUPPORT

Submit a technical question or find your regional support number.

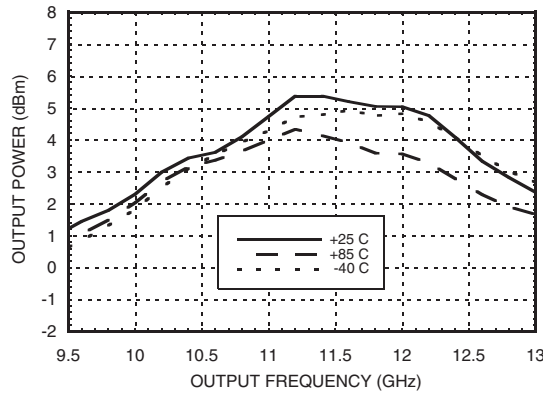
DOCUMENT FEEDBACK

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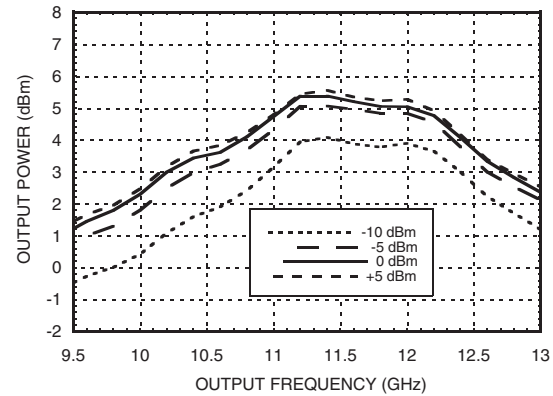


**SMT GaAs HBT MMIC x2 ACTIVE
FREQUENCY MULTIPLIER, 9.9 - 12.7 GHz OUTPUT**

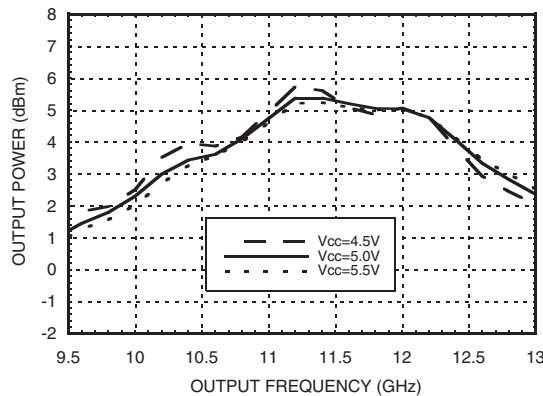
**Output Power vs.
Temperature @ 0 dBm Drive Level**



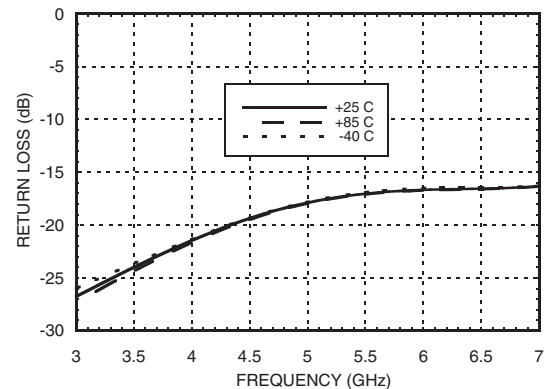
Output Power vs. Drive Level



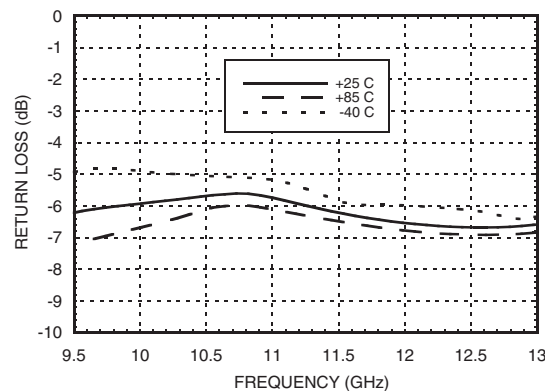
**Output Power vs.
Supply Voltage @ 0 dBm Drive Level**



Input Return Loss vs. Temperature



Output Return Loss vs. Temperature



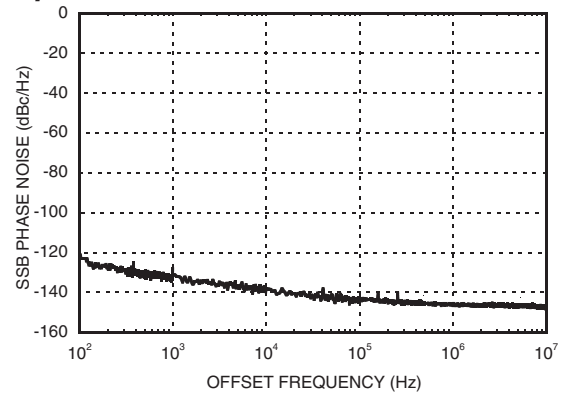
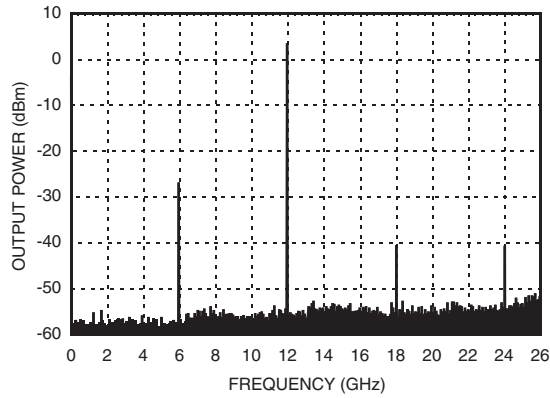


**SMT GaAs HBT MMIC x2 ACTIVE
FREQUENCY MULTIPLIER, 9.9 - 12.7 GHz OUTPUT**

SSB Phase Noise

**Performance, F_{out} = 10.66 GHz,
Input Power= 0 dBm**

Output Spectrum





SMT GaAs HBT MMIC x2 ACTIVE FREQUENCY MULTIPLIER, 9.9 - 12.7 GHz OUTPUT

Absolute Maximum Ratings

RF Input (Vcc = +5V)	+20 dBm
Vcc	+5.5V
Channel Temperature	135 °C
Continuous Pdiss (T=85 °C) (derate 6.8 mW/°C above 85 °C)	440 mW
Thermal Resistance (R _{thj}) (junction to ground paddle)	147.8 °C/W
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C

Typical Supply Current vs. Vcc

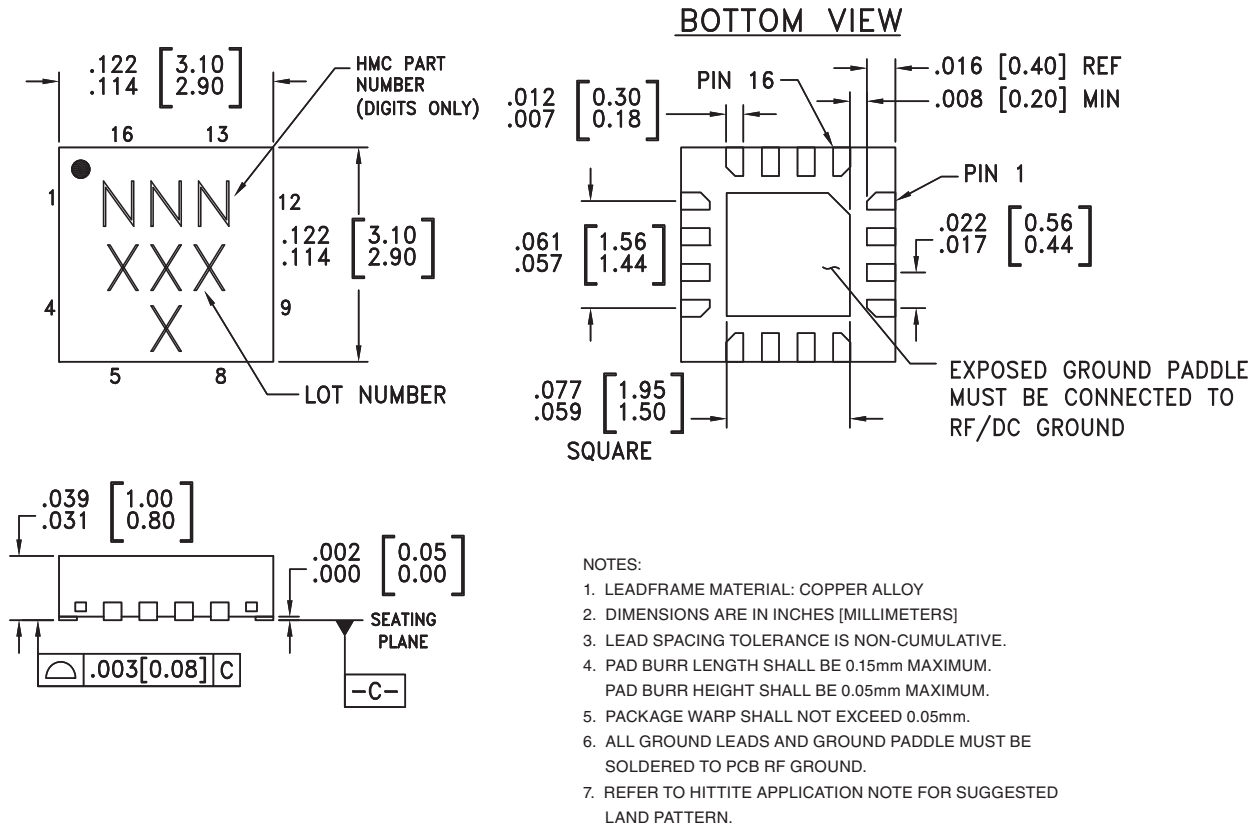
Vcc (V)	Icc (mA)
4.5	45
5.0	46
5.5	47

Note: Multiplier will operate over full voltage range shown above.



ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Outline Drawing



Package Information

Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking ^[3]
HMC369LP3	Low Stress Injection Molded Plastic	Sn/Pb Solder	MSL1 ^[1]	369 XXXX
HMC369LP3E	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL1 ^[2]	369 XXXX

[1] Max peak reflow temperature of 235 °C

[2] Max peak reflow temperature of 260 °C

[3] 4-Digit lot number XXXX

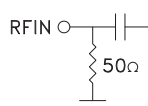

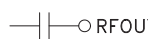
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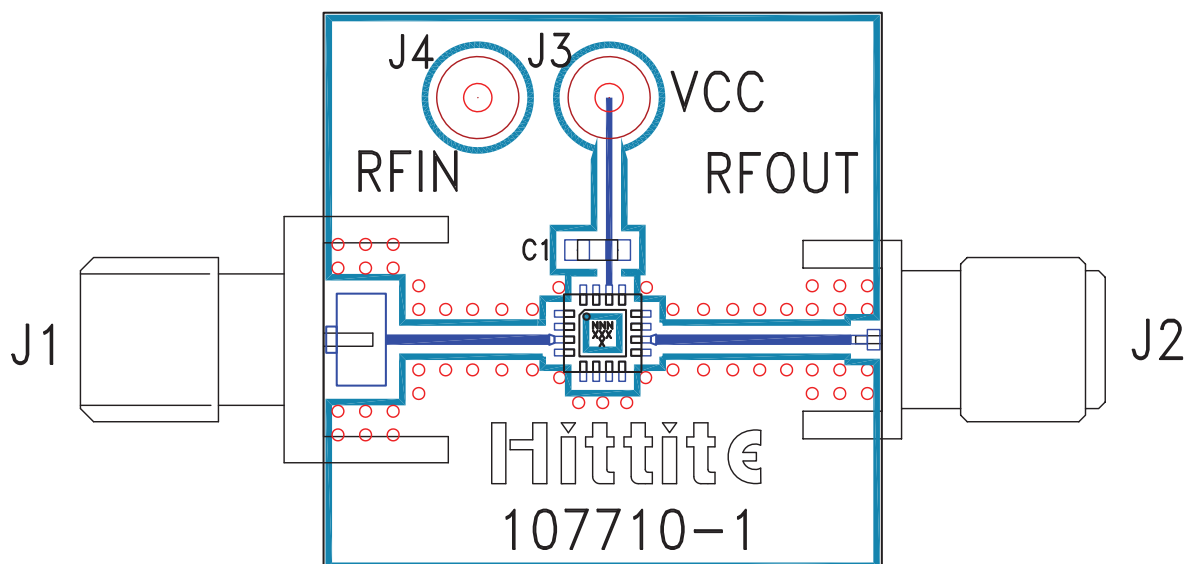
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**SMT GaAs HBT MMIC x2 ACTIVE
FREQUENCY MULTIPLIER, 9.9 - 12.7 GHz OUTPUT**

Pin Description

Pin Number	Function	Description	Interface Schematic
1, 2, 5 - 8, 11 - 13, 15, 16	N/C	The pins are not connected internally; however, all data shown herein was measured with these pins connected to RF/DC ground externally.	
3	RFIN	RF input needs to be DC blocked only if there is an external DC voltage applied to RFIN.	
4, 9	GND	All ground leads and ground paddle must be soldered to PCB RF/DC ground.	
10	RFOUT	Multiplied Output. AC coupled. No external DC blocks necessary.	
14	Vcc	Supply voltage 5V ± 0.5V.	

Evaluation PCB

List of Materials for Evaluation PCB 107712 ^[1]

Item	Description
J1, J2	PCB Mount SMA Connector
J3, J4	DC Pin
C1	0.01 µF Capacitor, 0603 Pkg.
U1	HMC369LP3 / HMC369LP3E x2 Active Multiplier
PCB [2]	107710 Eval Board

[1] Reference this number when ordering complete evaluation PCB

[2] Circuit Board Material: Rogers 4350

The circuit board used in the final application should be generated with proper RF circuit design techniques. Signal lines should have 50 ohm impedance while the package ground leads and exposed paddle should be connected directly to the ground plane similar to that shown. The evaluation circuit board shown is available from Hittite upon request.