HMC575* PRODUCT PAGE QUICK LINKS

Last Content Update: 02/23/2017

COMPARABLE PARTS

View a parametric search of comparable parts.

EVALUATION KITS

- HMC575LP4 Evaluation Board

DOCUMENTATION

Data Sheet

- HMC575 Data Sheet

REFERENCE MATERIALS

Quality Documentation

- Package/Assembly Qualification Test Report: LP4, LP4B, LP4C, LP4K (QTR: 2013-00487 REV: 04)
- Package/Assembly Qualification Test Report: Plastic Encapsulated QFN (QTR: 05006 REV: 02)
- Semiconductor Qualification Test Report: PHEMT-F (QTR: 2013-00269)

DESIGN RESOURCES

- HMC575 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all HMC575 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

Submit feedback for this data sheet.

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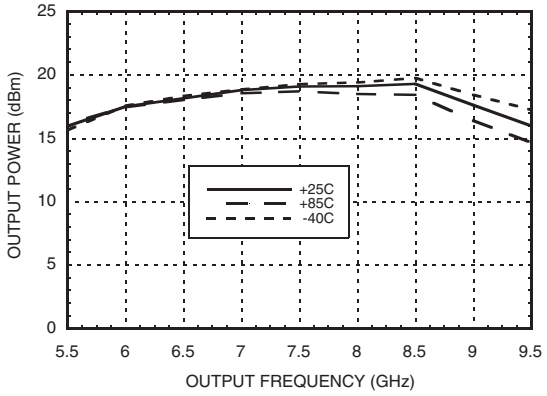
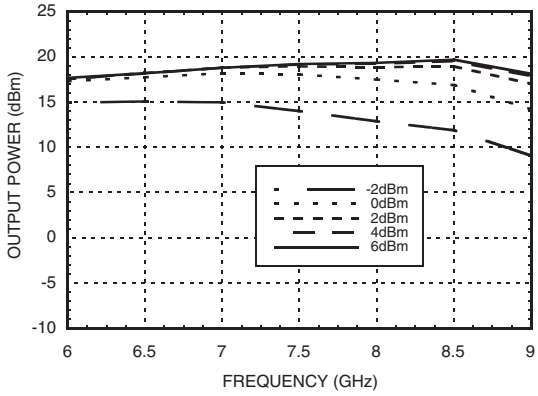
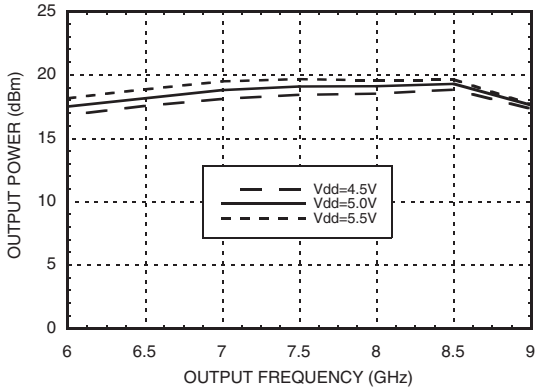
Output Power vs. Temperature @ 3 dBm Drive Level



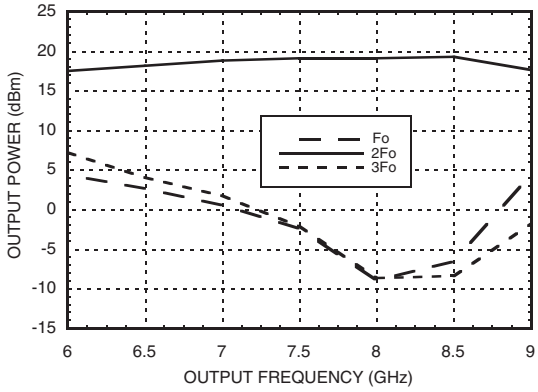
Output Power vs. Drive Level



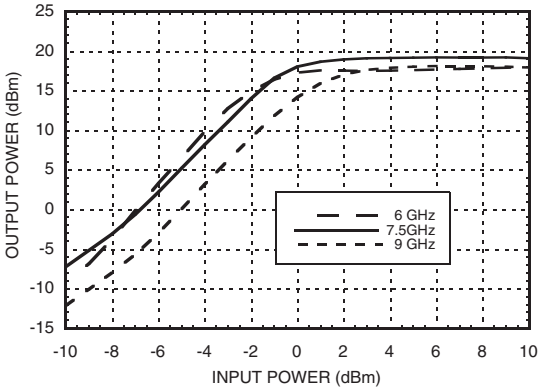
Output Power vs. Supply Voltage @ 3 dBm Drive Level



Isolation @ 3 dBm Drive Level



Output Power vs. Input Power



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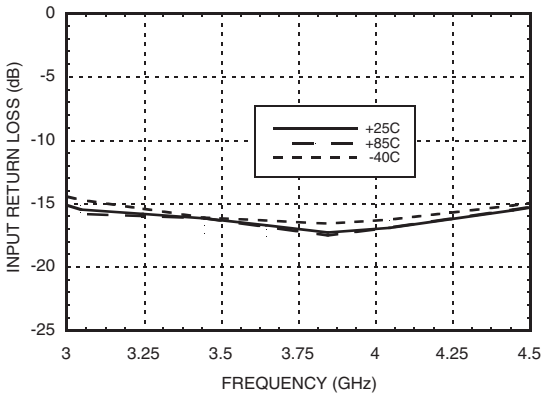
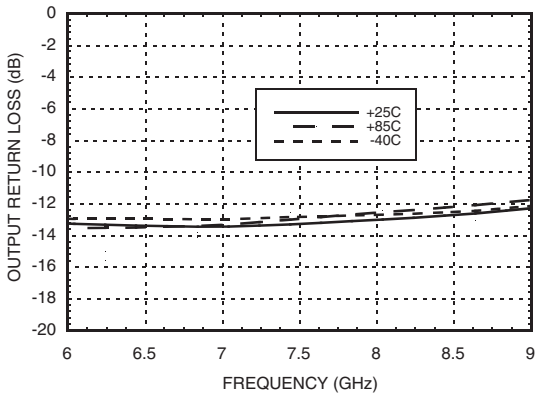
Input Return Loss vs. Temperature



Output Return Loss vs. Temperature



Absolute Maximum Ratings

RF Input (Vdd = +5V)	+13 dBm
Supply Voltage (Vdd)	+6.0 Vdc
Channel Temperature	150 °C
Continuous Pdiss (T= 85 °C) (derate 7.9 mW/°C above 85 °C)	512 mW
Thermal Resistance (channel to ground paddle)	127 °C/W
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C

Typical Supply Current vs. Vdd

Vdd (Vdc)	Idd (mA)
4.5	89
5.0	90
5.5	91

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

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

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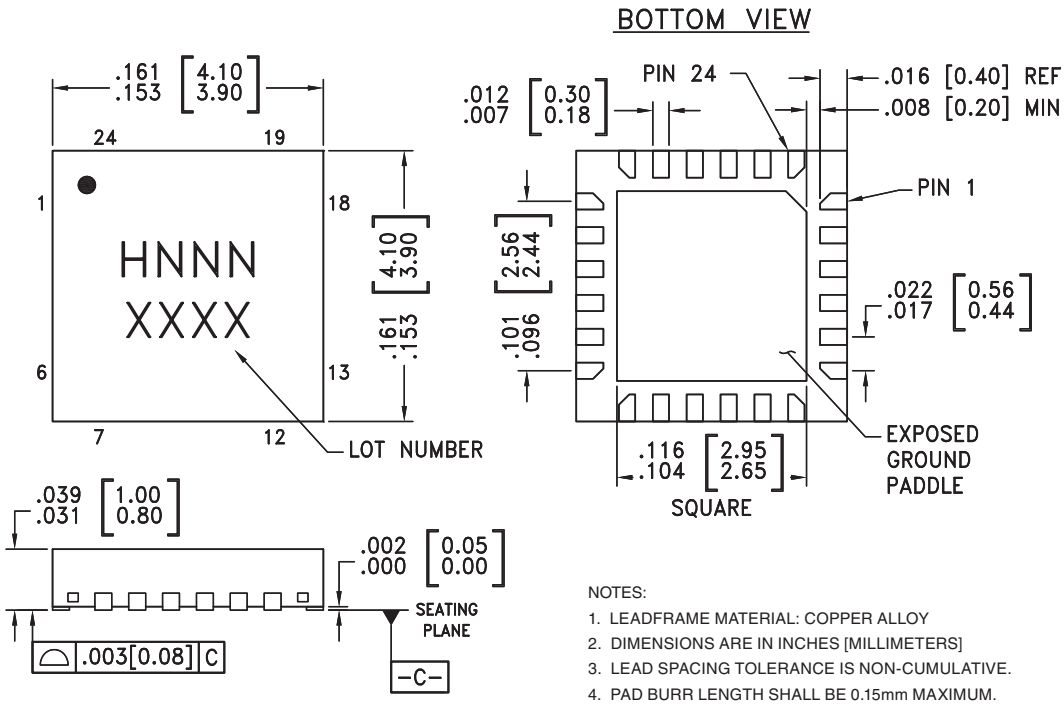
Outline Drawing



NOTES:

1. LEADFRAME MATERIAL: COPPER ALLOY
2. DIMENSIONS ARE IN INCHES [MILLIMETERS]
3. LEAD SPACING TOLERANCE IS NON-CUMULATIVE.
4. PAD BURR LENGTH SHALL BE 0.15mm MAXIMUM. PAD BURR HEIGHT SHALL BE 0.05mm MAXIMUM.
5. PACKAGE WARP SHALL NOT EXCEED 0.05mm.
6. ALL GROUND LEADS AND GROUND PADDLE MUST BE SOLDERED TO PCB RF GROUND.
7. REFER TO HITTITE APPLICATION NOT FOR SUGGESTED LAND PATTERN.

Package Information

Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking [3]
HMC575LP4	Low Stress Injection Molded Plastic	Sn/Pb Solder	MSL1 [1]	H575 XXXX
HMC575LP4E	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL1 [2]	H575 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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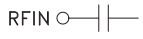
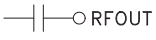
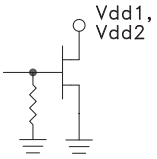
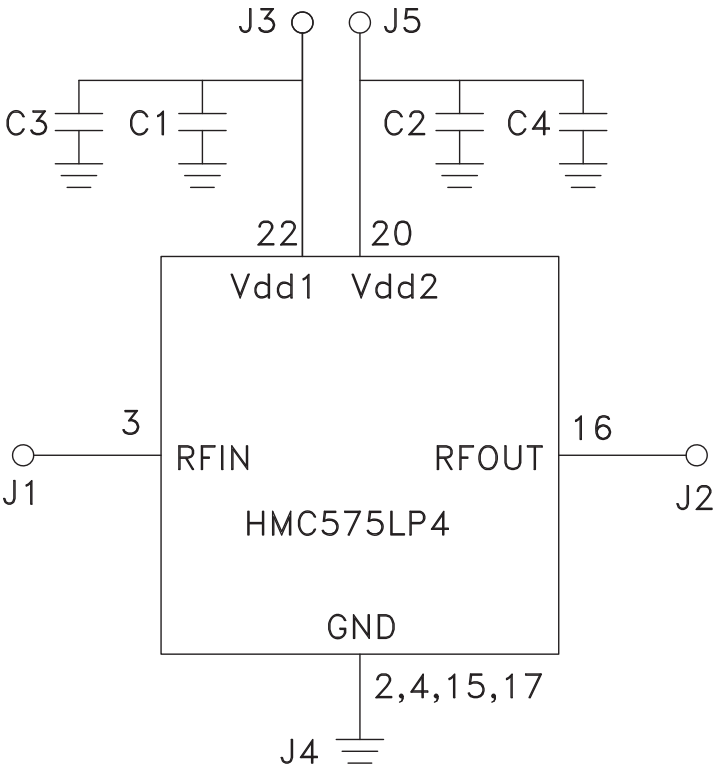
Pin Description

Pin Number	Function	Description	Interface Schematic
1, 5 - 14, 18, 19, 21, 23, 24	N/C	These pins are internally not connected; however, this product was specified with these pins connected to RF/ DC ground.	
2, 4, 15, 17	GND	Package bottom must also be connected to RF/DC ground.	
3	RFIN	Pin is AC coupled and matched to 50 Ohms from 3 - 4.5 GHz.	
16	RFOUT	Pin is AC coupled and matched to 50 Ohms from 6 - 9 GHz.	
20, 22	Vdd2, Vdd1	Supply voltage 5V ± 0.5V. External bypass capacitors of 100 pF and 2.2 µF are required.	

Application Circuit

Component	Value
C1, C2	100 pF
C3, C4	2.2 µF



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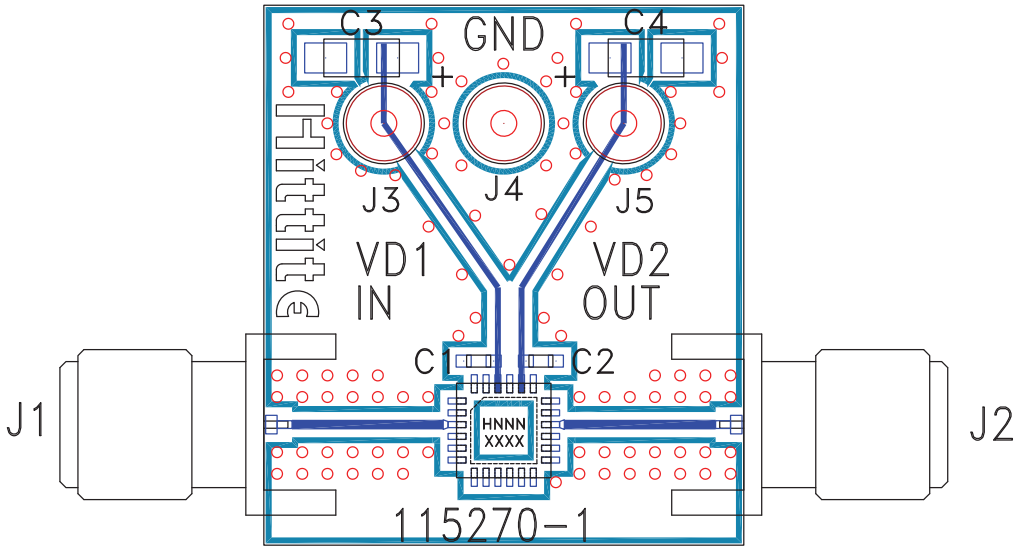
Evaluation PCB



List of Materials for Evaluation PCB 112405 [1]

Item	Description
J1, J2	PCB Mount SRI SMA Connector
J3 - J5	DC Pin
C1, C2	100 pF Capacitor, 0402 Pkg.
C3, C4	2.2 µF Tantalum Capacitor
U1	HMC575LP4 / HMC575LP4E x2 Active Multiplier
PCB [2]	115270 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.

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