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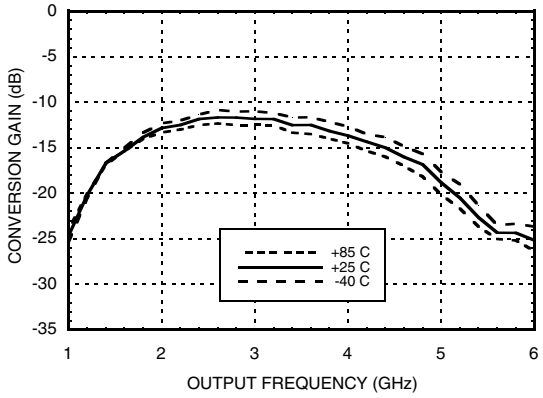
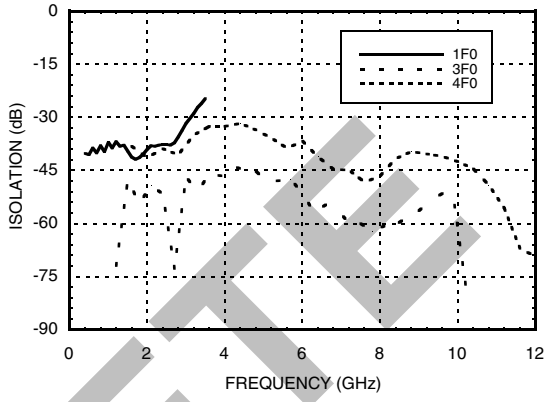
GaAs MMIC SMT PASSIVE FREQUENCY DOUBLER, 0.85 - 2.0 GHz INPUT

Conversion Gain @ +15 dBm Drive Level

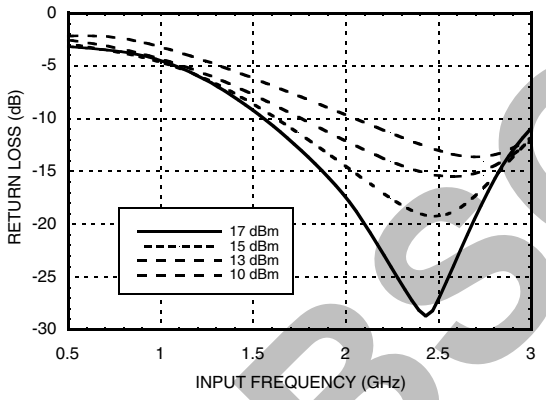


Isolation @ +15 dBm Drive Level*

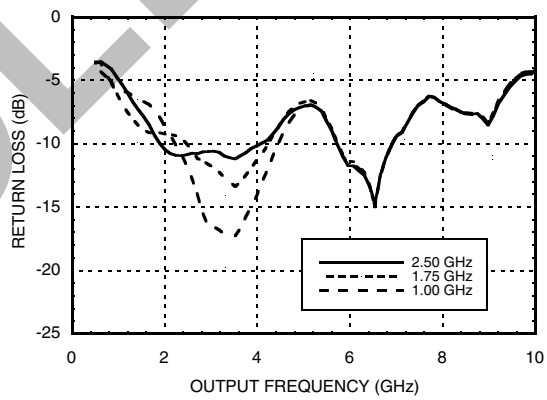


*With respect to input level

Input Return Loss vs. Drive Level



Output Return Loss for Several Input Frequencies



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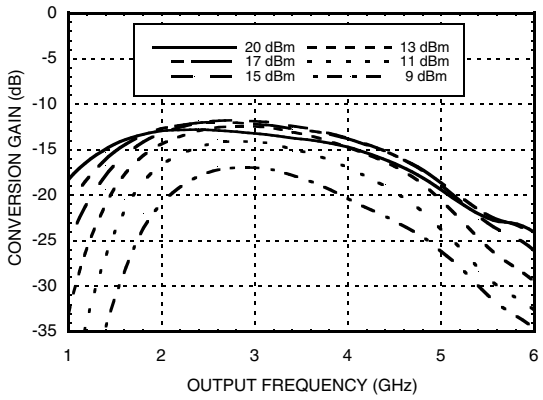
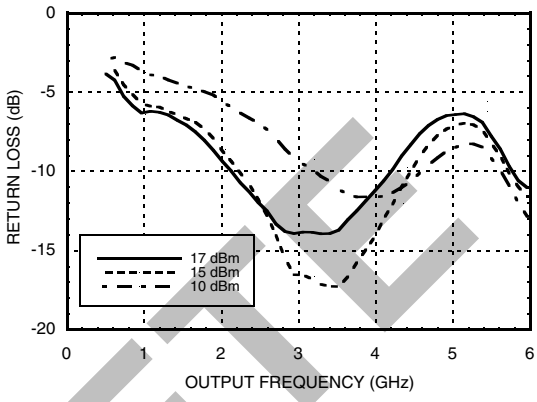
GaAs MMIC SMT PASSIVE FREQUENCY DOUBLER, 0.85 - 2.0 GHz INPUT

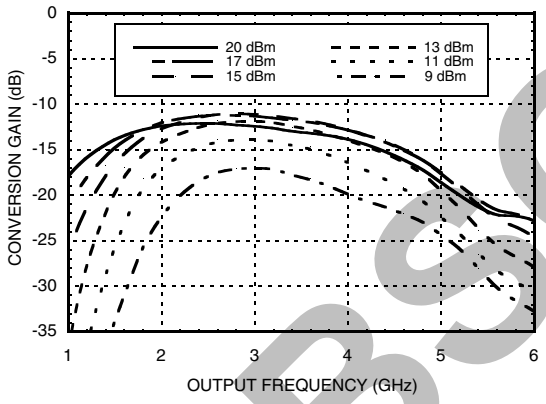
Conversion Gain @ 25°C vs. Drive Level



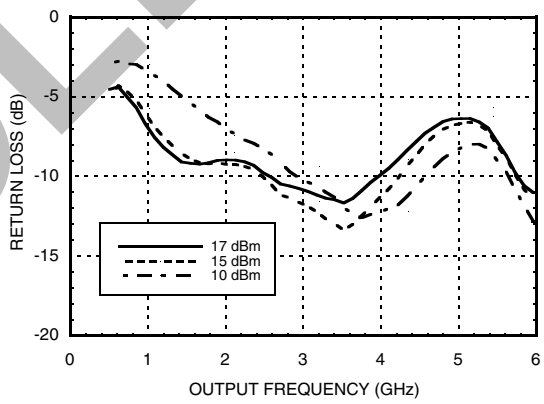
Output Return Loss with 1 GHz Input



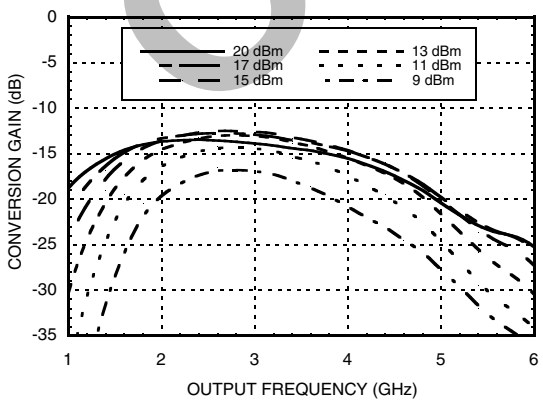
Conversion Gain @ -40°C vs. Drive Level



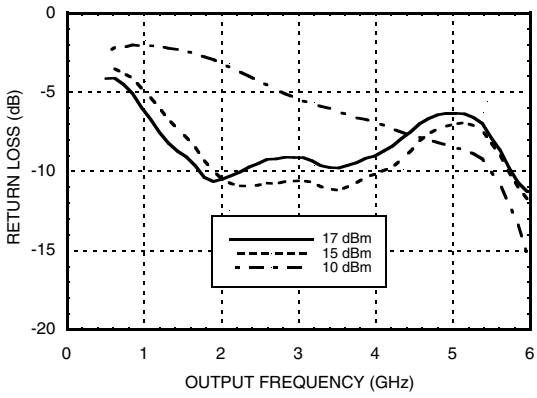
Output Return Loss with 1.75 GHz Input



Conversion Gain @ +85°C vs. Drive Level



Output Return Loss with 2.5 GHz Input



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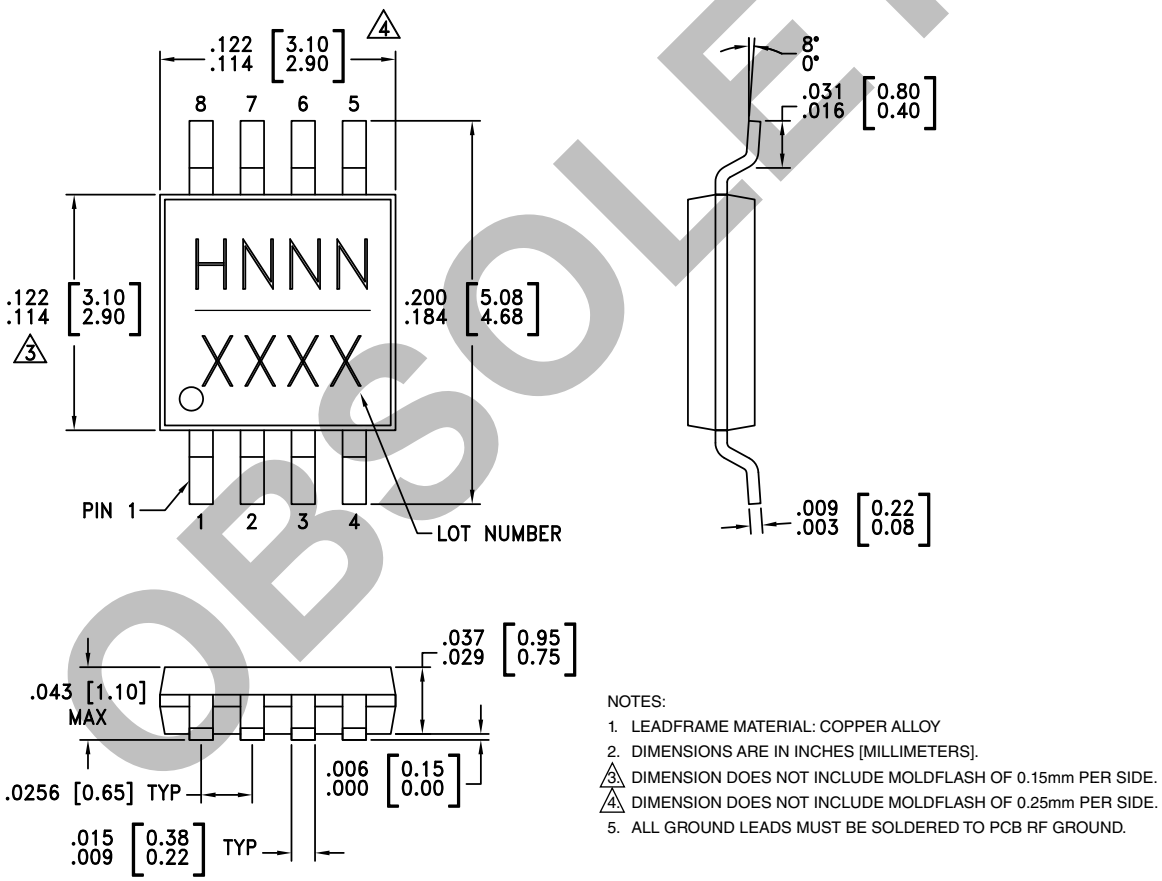
Absolute Maximum Ratings

Input Drive	+27 dBm
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Outline Drawing



NOTES:

1. LEADFRAME MATERIAL: COPPER ALLOY
2. DIMENSIONS ARE IN INCHES [MILLIMETERS].
3. DIMENSION DOES NOT INCLUDE MOLDFLASH OF 0.15mm PER SIDE.
4. DIMENSION DOES NOT INCLUDE MOLDFLASH OF 0.25mm PER SIDE.
5. ALL GROUND LEADS MUST BE SOLDERED TO PCB RF GROUND.

Package Information

Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking [3]
HMC187AMS8	Low Stress Injection Molded Plastic	Sn/Pb Solder	MSL1 [1]	H187A XXXX
HMC187AMS8E	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL1 [2]	H187A 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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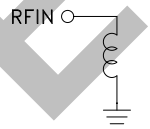
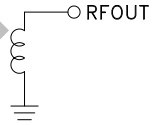
Pin Description

Pin Number	Function	Description	Interface Schematic
1, 4, 5, 8	N/C	These pins are not connected internally; however, all data shown herein was measured with these pins connected to RF/DC ground externally.	
3, 6	GND	All ground leads must be soldered to PCB RF/DC ground.	
2	RFIN	Pin is DC coupled and matched to 50 Ohms.	
7	RFOUT	Pin is DC coupled and matched to 50 Ohms.	

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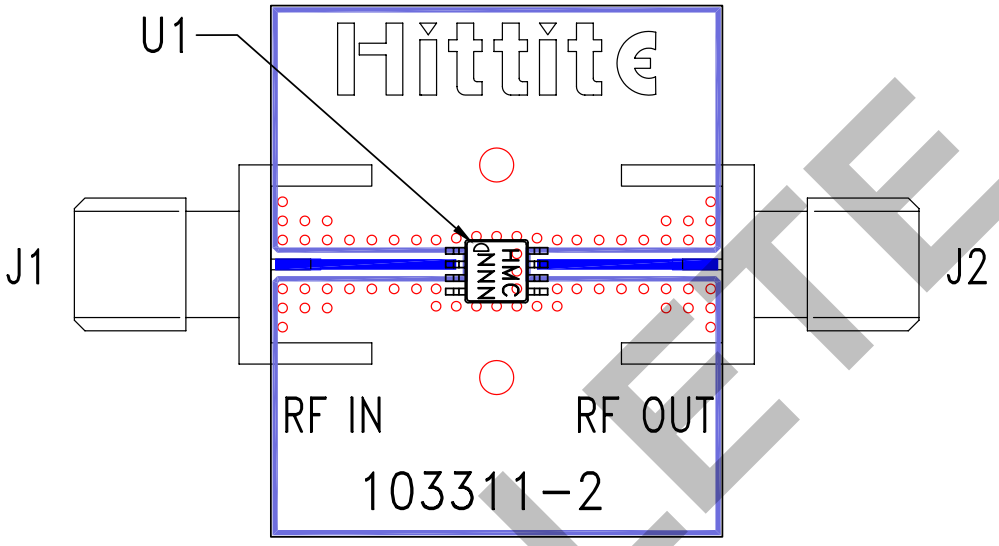
Evaluation PCB



List of Materials for Evaluation PCB 103313 [1]

Item	Description
J1, J2	PCB Mount SMA Connector
U1	HMC187AMS8(E) Doubler
PCB [2]	103311 Eval Board

[1] Reference this number when ordering complete evaluation PCB

[2] Circuit Board Material: Rogers 4350

The circuit board used in the application should be generated with proper RF circuit design techniques. Signal lines should have 50 ohm impedance while the package N/C and ground leads 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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