HMC264LC3B* PRODUCT PAGE QUICK LINKS

Last Content Update: 11/29/2017

COMPARABLE PARTS

View a parametric search of comparable parts.

EVALUATION KITS

- HMC264LC3B Evaluation Board

DOCUMENTATION

Application Notes

- Mixer Application Note

Data Sheet

- HMC264LC3B Data Sheet

TOOLS AND SIMULATIONS

- HMC264LC3B S-Parameters

REFERENCE MATERIALS

Product Selection Guide

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

Quality Documentation

- Package/Assembly Qualification Test Report: LC3, LC3B, LC3C (QTR: 2014-00376 REV: 01)
- Semiconductor Qualification Test Report: PHEMT-A (QTR: 2013-00267)

DESIGN RESOURCES

- HMC264LC3B Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all HMC264LC3B 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

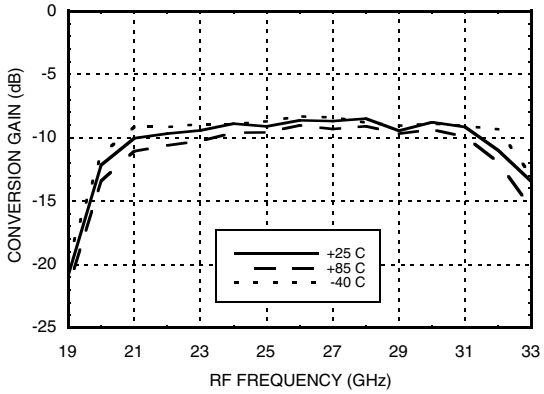
Submit feedback for this data sheet.

This page is dynamically generated by Analog Devices, Inc., and inserted into this data sheet. A dynamic change to the content on this page will not trigger a change to either the revision number or the content of the product data sheet. This dynamic page may be frequently modified.

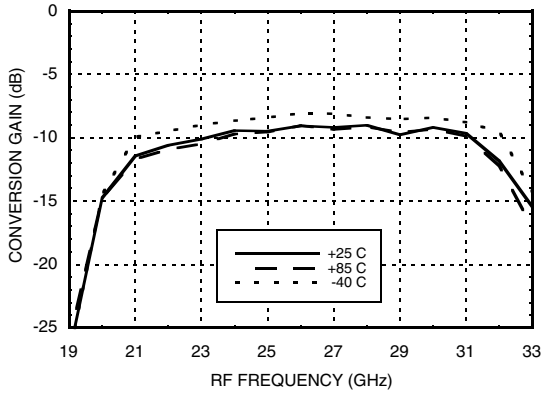
RoHS✓ EARTH FRIENDLY

GaAs MMIC SUB-HARMONIC SMT MIXER, 21 - 31 GHz

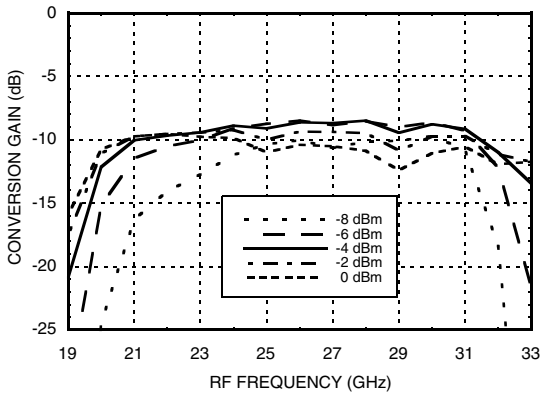
Conversion Gain vs. Temperature @ LO = -4 dBm, Vdd= +4V



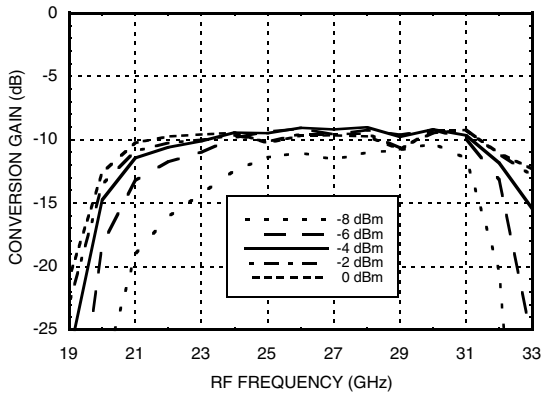
Conversion Gain vs. Temperature @ LO = -4 dBm, Vdd= +3V



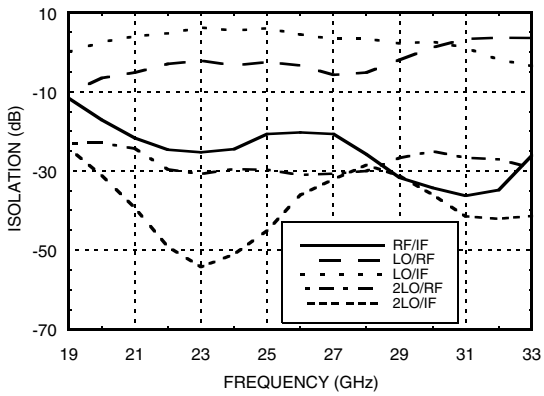
Conversion Gain vs. LO Drive @ Vdd = +4V



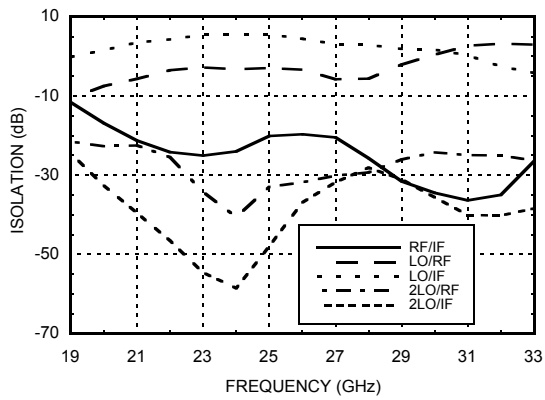
Conversion Gain vs. LO Drive @ Vdd = +3V



Isolation @ LO = -4 dBm, Vdd = +4V



Isolation @ LO = -4 dBm, Vdd = +3V

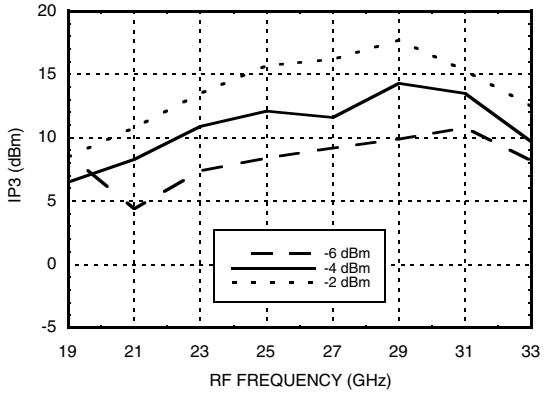


For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

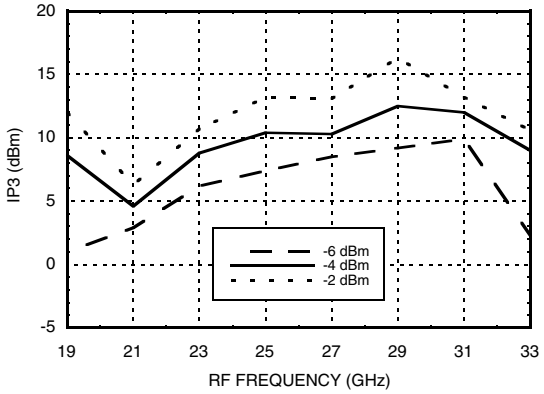
RoHS✓ EARTH FRIENDLY

GaAs MMIC SUB-HARMONIC SMT MIXER, 21 - 31 GHz

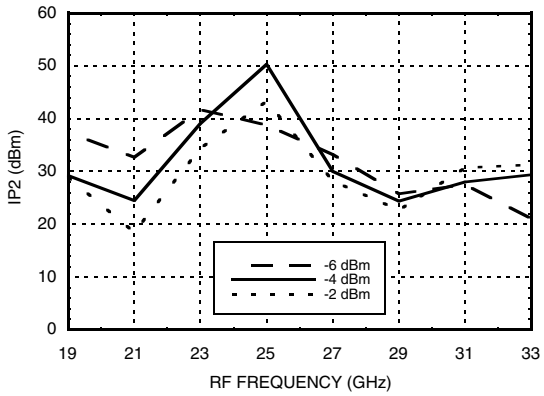
Input IP3 vs. LO Drive @ Vdd = +4V *



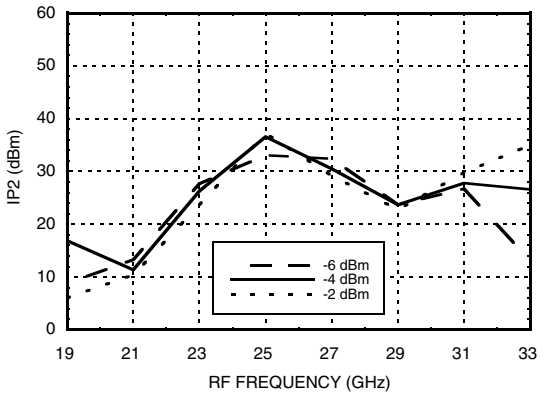
Input IP3 vs. LO Drive @ Vdd = +3V *



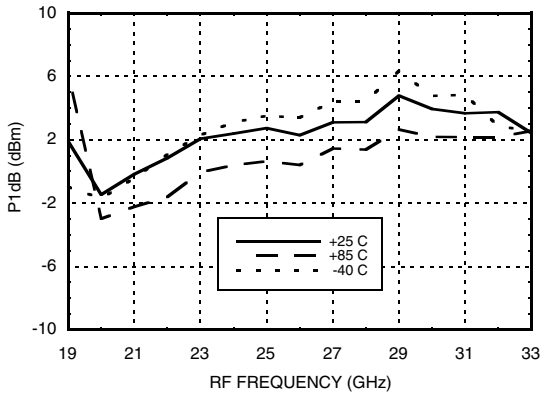
Input IP2 vs. LO Drive @ Vdd = +4V *



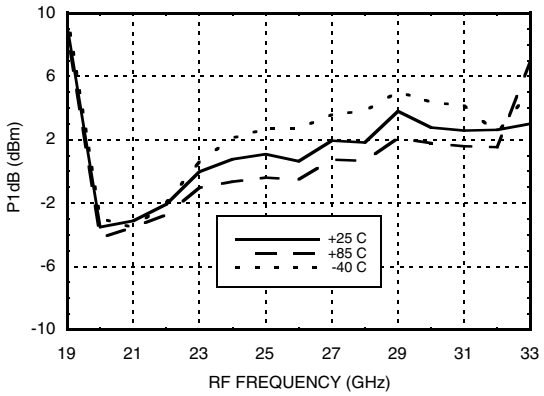
Input IP2 vs. LO Drive @ Vdd = +3V *



Input P1dB vs. Temperature @ LO = -4 dBm, Vdd = +4V



Input P1dB vs. Temperature @ LO = -4 dBm, Vdd = +3V



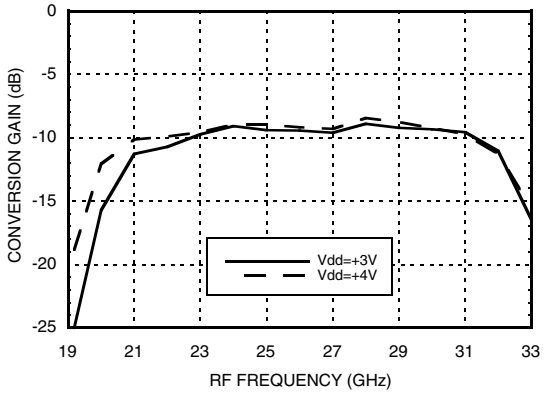
** Two-tone input power = -10 dBm each tone, 1 MHz spacing.*

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

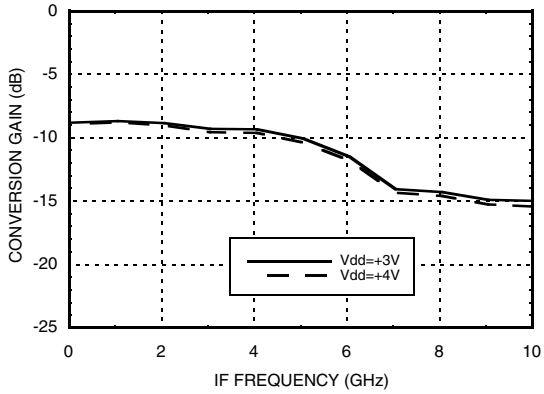
RoHS✓ EARTH FRIENDLY

GaAs MMIC SUB-HARMONIC SMT MIXER, 21 - 31 GHz

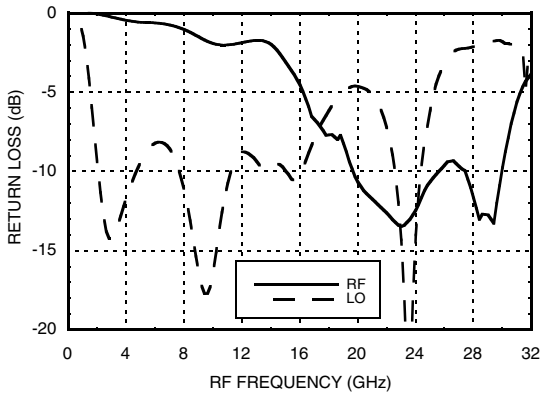
Upconverter Performance
Conversion Gain @ LO = -4 dBm



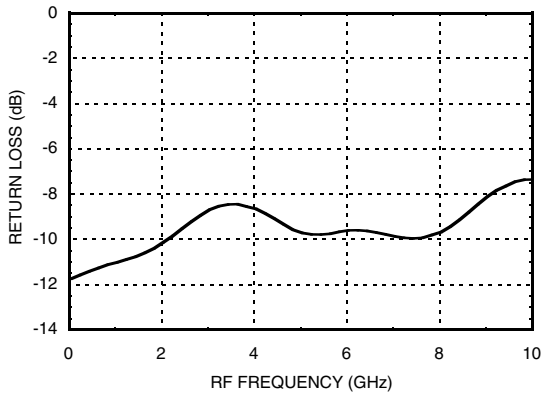
IF Bandwidth @ LO = -4 dBm



RF & LO Return Loss @ LO = -4 dBm



IF Return Loss @ LO = -4 dBm



MxN Spurious Outputs
@ LO = -4 dBm, Vdd = +4V

	nLO					
mRF	±5	±4	±3	±2	±1	0
-2	30					
-1	60	39	31			
0			17	14	-17	
1				X	35	25
2		46	42	64	64	
3	82	80	82			

RF = 30 GHz @ -10 dBm
LO = 13.5 GHz @ -4 dBm
All values in dBc below IF power level.

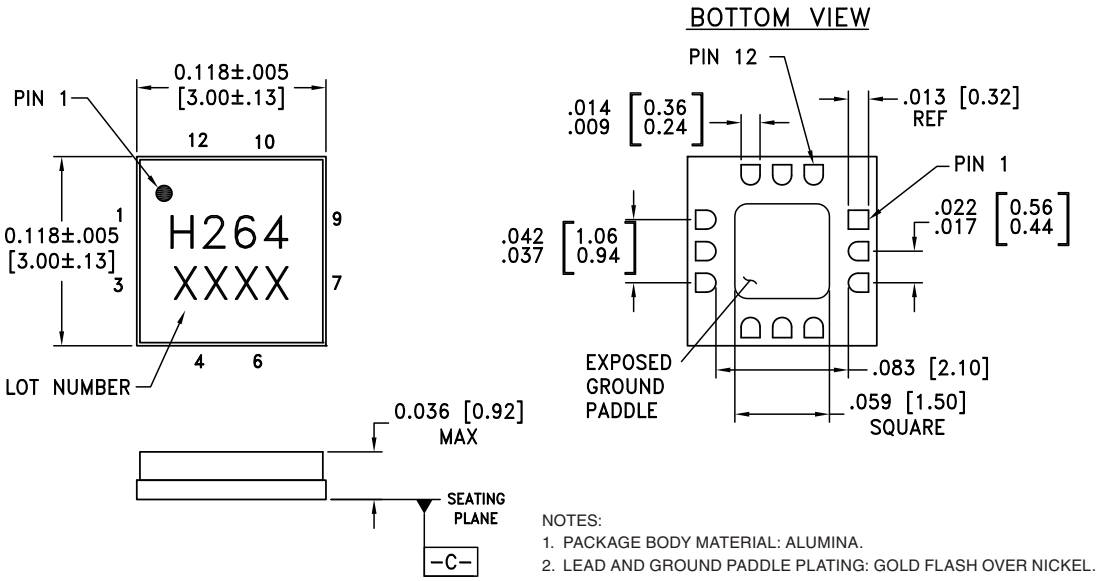
For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

Absolute Maximum Ratings

RF / IF Input (Vdd = +5V)	+13 dBm
LO Drive (Vdd = +5V)	+13 dBm
Vdd	5.5V
Channel Temperature	175 °C
Continuous Pdiss (Ta = 85 °C) (derate 2.52 mW/°C above 85 °C)	227 mW
Thermal Resistance (junction to ground paddle)	397 °C/W
Storage Temperature	-65 to +150 °C
Operating Temperature	-40 to +85 °C

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Outline Drawing



NOTES:

1. PACKAGE BODY MATERIAL: ALUMINA.
2. LEAD AND GROUND PADDLE PLATING: GOLD FLASH OVER NICKEL.
3. DIMENSIONS ARE IN INCHES (MILLIMETERS).
4. LEAD SPACING TOLERANCE IS NON-CUMULATIVE.
5. CHARACTERS TO BE HELVETICA MEDIUM, .025 HIGH, BLACK INK, OR LASER MARK LOCATED APPROX. AS SHOWN.
6. PACKAGE WARP SHALL NOT EXCEED 0.05MM DATUM -C-
7. ALL GROUND LEADS AND GROUND PADDLE MUST BE SOLDERED TO PCB RF GROUND.

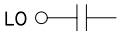
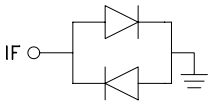
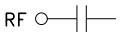
Package Information

Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking [2]
HMC264LC3B	Alumina, White	Gold over Nickel	MSL3 [1]	H264 XXXX

[1] Max peak reflow temperature of 260 °C
[2] 4-Digit lot number XXXX

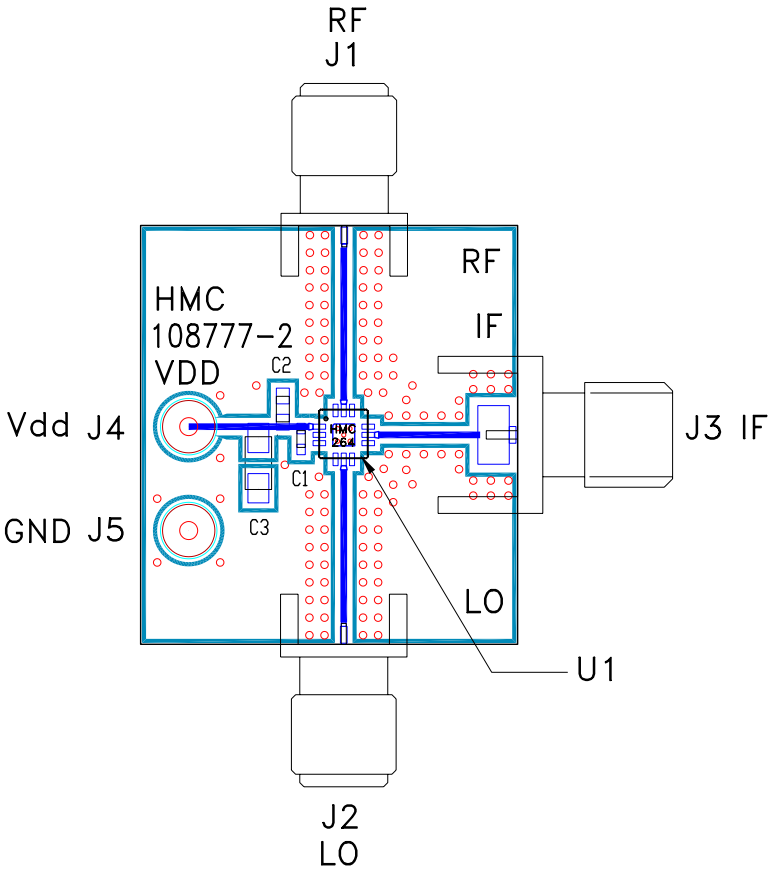
For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

Pin Descriptions

Pin Number	Function	Description	Interface Schematic
1	Vdd	Power supply for the LO Amplifier. External RF bypass capacitors are required as close to the package as possible.	
2, 3	N/C	No connection required. These pins may be connected to RF/DC ground without affecting performance.	
4, 6, 7, 9, 10, 12	GND	Package bottom must also be connected to RF/DC ground.	
5	LO	LO Port. This pin is AC coupled and matched to 50 Ohms from 10.5 - 15.5 GHz.	
8	IF	IF Port. This pin is DC coupled and should be DC blocked externally using a series capacitor whose value has been chosen to pass the necessary IF frequency range. Any applied DC voltage to this pin will result in die non-function and possible die failure.	
11	RF	RF Port. This pin is AC coupled and matched to 50 Ohms from 21 - 31 GHz.	

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

Evaluation PCB



List of Materials for Evaluation PCB 108779 [1]

Item	Description
J1 - J3	PCB Mount SMA Connector
J4, J5	DC Pin
C1	100 pF Capacitor, 0402 Pkg.
C2	1000 pF Capacitor, 0603 Pkg
C3	2.2 µF Capacitor, Tantalum
U1	HMC264LC3B Mixer
PCB [2]	108777 Evaluation PCB

[1] Reference this number when ordering complete evaluation PCB

[2] Circuit Board Material: Rogers 4350

The circuit board used in this application should use 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. A sufficient number of via holes should be used to connect the top and bottom ground planes. The evaluation board should be mounted to an appropriate heat sink. The evaluation circuit board shown is available from Hittite upon request.

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

GaAs MMIC SUB-HARMONIC SMT MIXER, 21 - 31 GHz

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D