



HMC787ALC3B

v00.0815

GaAs MMIC FUNDAMENTAL MIXER 3 - 11 GHz

Typical Applications

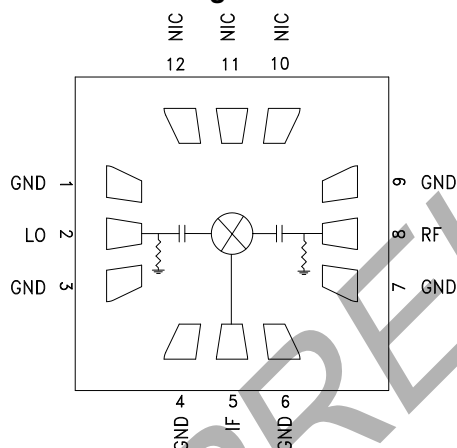
The HMC787ALC3B is ideal for:

- WiMAX Infrastructure
- Microwave Radio
- ISM & UWB Radios
- Test Equipment & Sensors
- Military End-Use

Features

- Conversion Loss: 8.8 dB
- LO to RF Isolation: 56 dB
- LO to IF Isolation: 44 dB
- RF to IF Isolation: 23 dB
- Input Third-Order Intercept (IP3): 23 dBm
- Input Second-Order Intercept (IP2): 62 dBm
- Input Power for 1 dB Compression (P1dB): 15 dBm
- Passive Double-Balanced Topology
- Wide IF Bandwidth: DC - 4 GHz
- No External Matching Required
- 12 Lead 3 mm x 3 mm SMT Package

Functional Diagram



General Description

The HMC787ALC3B is a general purpose double balanced mixer in a leadless RoHS compliant SMT package that can be used as an upconverter or downconverter between 3 and 11 GHz. This mixer is fabricated in a GaAs MESFET process and requires no external components or matching circuitry. The HMC787ALC3B provides excellent LO to RF and LO to IF isolation due to optimized balun structures and operates with LO drive level of 17 dBm. The ceramic SMT package eliminates the need for wire bonding and is compatible with high volume surface mount manufacturing techniques.

Electrical Specifications, $T_A = +25^\circ\text{C}$, $IF = 100\text{ MHz}$, $LO\text{ Power} = 17\text{ dBm}$ [1]

Parameter	Min.	Typ.	Max.	Units
RF Frequency Range	3		11	GHz
LO Frequency Range	3		11	GHz
IF Frequency Range	DC		4	GHz
Conversion Loss		8.8	10	dB
Noise Figure, Single Sideband (SSB)		8.8	10	dB
LO to RF Isolation		56		dB
LO to IF Isolation	32	44		dB
RF to IF Isolation	15	23		dB
Input Third-Order Intercept (IP3)		23		dBm
Input Second-Order Intercept (IP2)		62		dBm
Input Power for 1 dB Gain Compression (P1dB)		15		dBm

[1] Unless otherwise noted, all measurements performed as downconverter with upper sideband selected, $IF = 100\text{ MHz}$

