

17.0-34.0 GHz GaAs MMIC Up-Converter

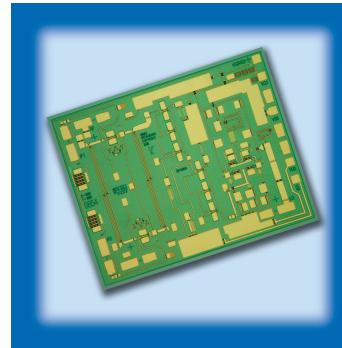
Mimix
BROADBAND™

September 2009 - Rev 11-Sep-09

X UI010-BD
X RoHS

Features

- ✓ Integrated Balanced Mixer, LO Buffer and LO Doubler
- ✓ +23.0 dBm Input Third Order Intercept (IIP3)
- ✓ +2.0 dBm LO Drive Level
- ✓ 100% On-Wafer RF Testing



General Description

Mimix Broadband's 17.0-34.0 GHz GaAs up-converter has an input third order intercept point of +22.0 dBm and 10.0 dB of conversion loss. The device consists of a balanced resistive pHEMT mixer, LO buffer amplifier and LO doubler. The device includes on-chip ESD protection structures and DC by-pass capacitors to ease the implementation and volume assembly of the part. This device is well suited for Millimeter-wave Point-to-Point Radio, LMDS, SATCOM and VSAT applications.

Absolute Maximum Ratings

Parameter	Units	Min.	Max.
Drain Voltage Supply (Vdd)	V	-	4.3
Drain Current (Ids)	mA	-	350
Input Power (Pin) IF	dBm	-	5
Input Power (Pin) LO	dBm	-	10
Storage Temperature (Tstg)	°C	-55	+150
Operating Backside Temperature (Tb)	°C	-45	+85

Electrical Characteristics (Ambient Temperature T = 25 °C)

Parameter	Units	Min.	Typ.	Max.
Frequency Range (RF)	GHz	17		34
Frequency Range (LO)	GHz	8		20
Frequency Range (IF)	GHz	DC		3.5
Conversion Loss (CL)	dB		10	
Input Third Order Intercept (IIP3)	dBm		23	
LO Input Drive	dBm		2	
RF Input Return Loss	dB		15	
LO Input Return Loss	dB		15	
IF Input Return Loss	dB		15	
2xLO Leakage at RF	dBm		-20	
1xLO Leakage at RF	dBm		-30	
Drain Bias Voltage (Vd1,2)	VDC		4.0	
Gate Bias Voltage (Vq1)	VDC		~-0.2	
Gate Bias Voltage (Vq2,3)	VDC		-0.8	
Gate Bias Voltage (Vss)	VDC		-4.0	
Supply Current (Id1)	mA		130	
Supply Current (Id2)	mA		~60	
Supply Current (Iss)	mA		45	

Mimix Broadband, Inc., 10795 Rockley Rd., Houston, Texas 77099
Tel: 281.988.4600 Fax: 281.988.4615 mimixbroadband.com

Page 1 of 1

Characteristic Data and Specifications are subject to change without notice. ©2009 Mimix Broadband, Inc.
Export of this item may require appropriate export licensing from the U.S. Government. In purchasing these parts, U.S. Domestic customers accept their obligation to be compliant with U.S. Export Laws.