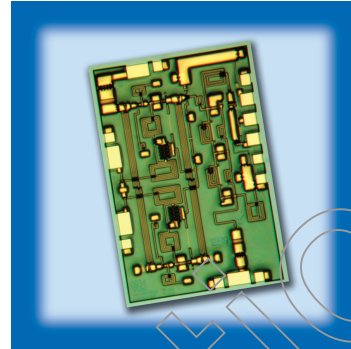


8.0-18.0 GHz GaAs MMIC Up-Converter

Features

- ✕ Integrated Balanced Mixer, LO Buffer
- ✕ +22.0 dBm Input Third Order Intercept (IIP3)
- ✕ +5.0 dBm LO Drive Level
- ✕ 100% On-Wafer RF Testing



General Description

Mimix Broadband's 8.0-18.0 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 and LO buffer amplifier. 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	-	5
Drain Current (Ids)	mA	-	85
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
ESD-Machine Model (ESD_MM)	V	50	-
ESD-Human Body Model (ESD_HBM)	V	200	-
MSL Level (MSL)		MSL2	

Electrical Characteristics (Ambient Temperature T = 25 °C)

Parameter	Units	Min.	Typ.	Max.
Frequency Range (RF/LO)	GHz	8		18
Frequency Range (IF)	GHz	DC		3.5
Conversion Loss (CL)	dB		10	
Input Third Order Intercept (IIP3)	dBm		22	
LO Input Drive	dBm		5	
LO Leakage at RF	dBm		-25	
RF Input Return Loss	dB		15	
LO Input Return Loss	dB		15	
IF Input Return Loss	dB		15	
Drain Bias Voltage (Vd)	VDC		4	
Gate Bias Voltage (Vg1)	VDC		-0.3	
Gate Bias Voltage (Vg2)	VDC		-2	
Supply Current (Id1)	mA		80	