



Typical Applications

- UMTS, GSM or CDMA Basestations
- Fixed Wireless or WLL
- ISM Transceivers, 900 & 2400 MHz
- GMSK, QPSK, QAM, SSB Modulators
- Cellular/3G and WiMAX/4G

Features

- Very Low Noise Floor, -160 dBm/Hz
- Excellent Carrier & Sideband Suppression
- Very High Linearity, +30 dBm OIP3
- High Output Power, +11 dBm Output
- 1dB High Modulation Accuracy

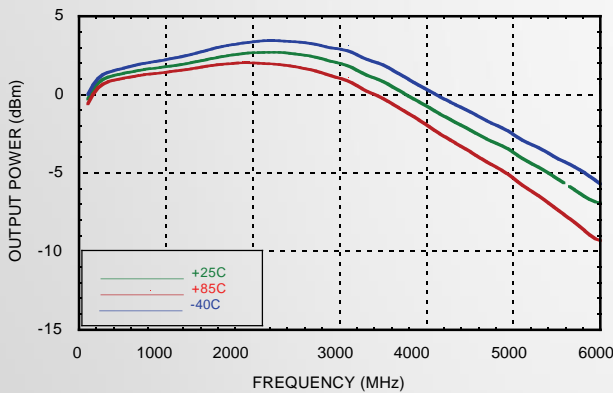
General Description

The RFI1011 is a low noise, high linearity Direct Quadrature Modulator which is ideal for digital modulation applications from 0.1 to 6.0 GHz including; Cellular/3G, WiMAX/4G, Broadband Wireless Access & ISM circuits. The RF output port is single-ended and matched to 50 Ohms with no external components.

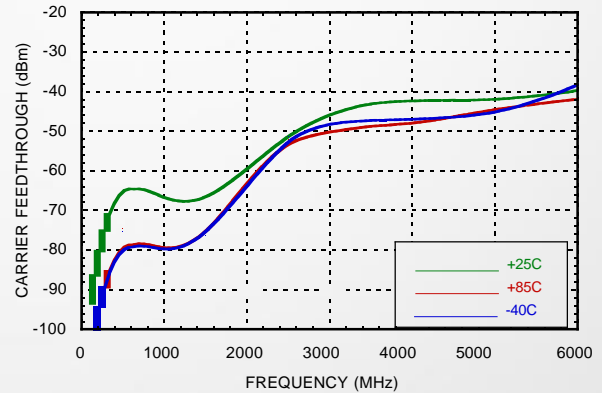
The LO requires -20 to 0 dBm and can be driven in either differential or single-ended mode. This device is optimized for a +5.5V supply, and offers improved carrier feedthrough and sideband suppression characteristics.

Parameter	Conditions	Min.	Typ.	Max.	Units
RF Output					
RF Frequency Range		100		6000	MHz
RF Return Loss			15		dB
LO Input					
LO Frequency Range		100		6000	MHz
LO Input Power		-20	-10	0	dBm
LO Port Return Loss			15		dB
DC Power Supply					
Supply Voltage (Vcc1, Vcc2)		+5.3	+5.5	+6	V
Supply Current (Icc1 + Icc2) EN Low			240		mA

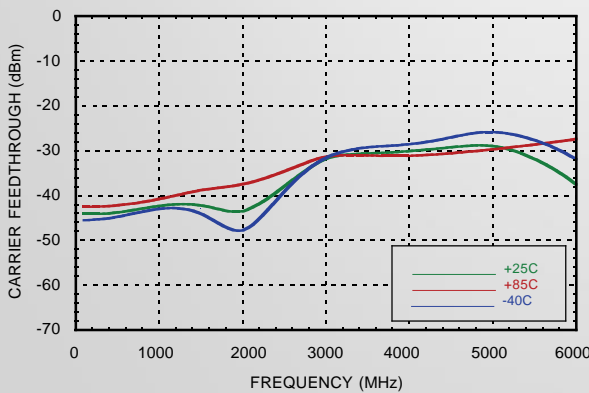
Output Power vs. Frequency Over Temperature



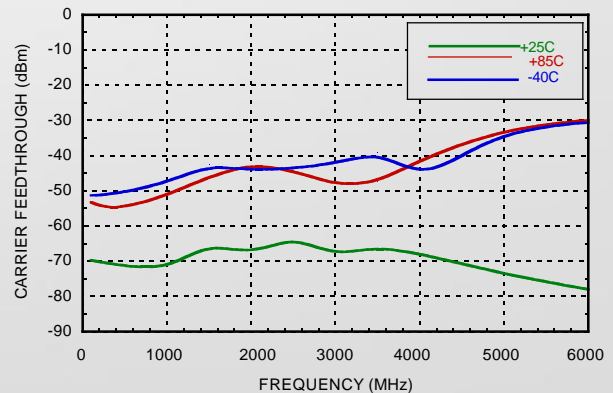
Uncalibrated Carrier Feedthrough [1] vs. Frequency Over Temperature When Disabled



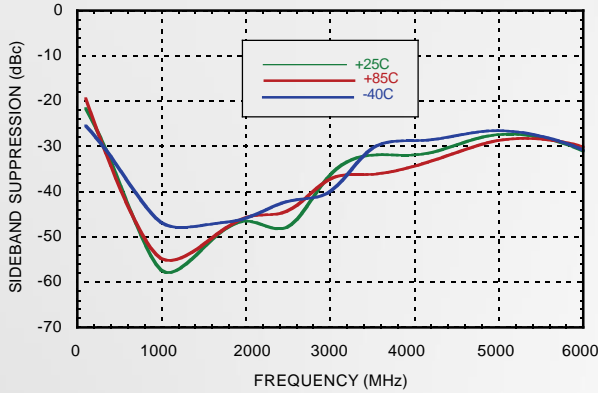
Uncalibrated Carrier Feedthrough [1] vs. Frequency Over Temperature



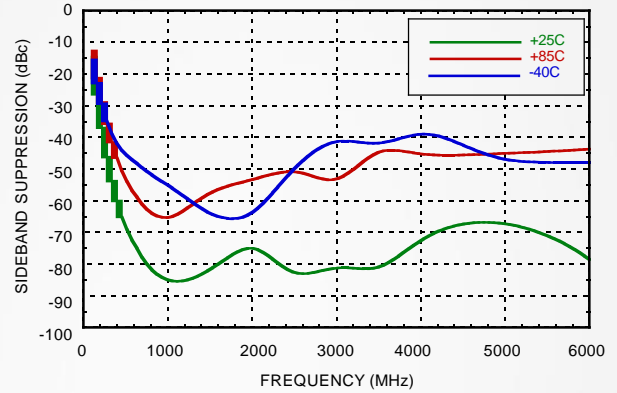
Calibrated Carrier Feedthrough [1] vs. Frequency Over Temperature



Uncalibrated Sideband Suppression vs. Frequency Over Temperature [1]



Calibrated Sideband Suppression vs. Frequency Over Temperature [1]



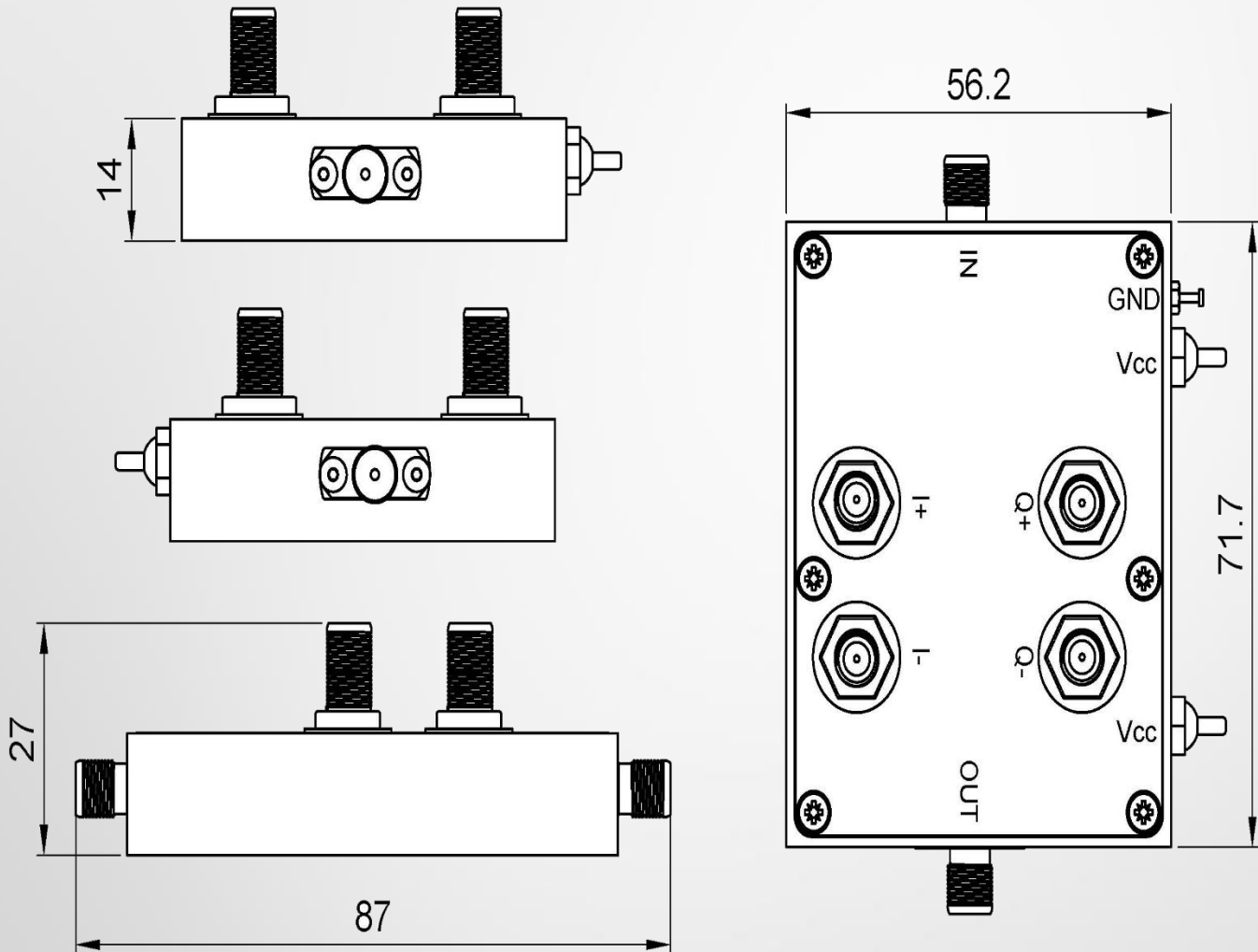
Interface Connections

The necessary input/output connections on a RFI1011 quadrature modulator summarized in [Table 1](#).

Table 1. Input and output connections for RFI1011

Parameter	Connector Style	Type
LO IN	SMA	Female
RF Output	SMA	Female
I + In	SMA	Female
I - In	SMA	Female
Q + In	SMA	Female
Q - In	SMA	Female

Mechanical Dimensions





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