

**FEATURES**

RF Frequency:	500 – 5000 MHz
Input P1dB:	+16 dBm
Sideband Suppression:	-40 dBc
LO Leakage:	-35 dBm
LO Power:	+5 dBm
DC Power:	+5 V @ 250 mA, -5 V @ 25 mA

**DESCRIPTION**

The SSB0550A is a single-sideband modulator optimized for linear modulation of an RF carrier (LO). The IF input is upconverted to the desired RF sideband while the unwanted RF sideband is internally suppressed.

The SSB0550A maintains excellent sideband suppression across multi-octave IF frequency bandwidths. In-stock IF bands include:

- 10 MHz to 50 MHz
- 30 MHz to 90 MHz

Other common IF bands are available. Please specify desired sideband (LSB/USB) and IF band when ordering.

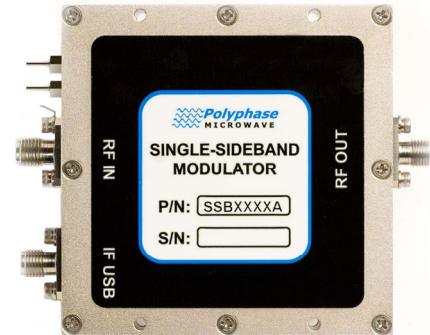
**ELECTRICAL SPECIFICATIONS**

Test Conditions: +25°C, RF Input = +5 dBm, IF input = 0 dBm @ 30 MHz unless otherwise noted.

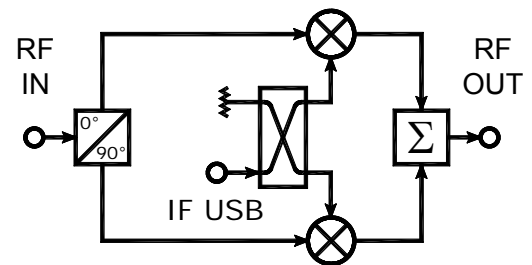
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
RF Frequency Range <sup>1</sup>		500		5000	MHz
RF Input (LO) Power		+4	+5	+7	dBm
RF Input (LO) VSWR			1.5:1		Ratio
RF Output VSWR			2.5:1		Ratio
IF Input Impedance <sup>2</sup>			50		$\Omega$
Conversion Loss <sup>2</sup>			4	6.0	dB
Input IP3 <sup>2</sup>	2-Tone, $\Delta f = 1$ MHz		+25		dBm
Input P1dB <sup>2</sup>			+16		dBm
RF Carrier (LO) Leakage at RF Output	No IF input		-35	-25	dBm
RF-IF Isolation	No IF input		45		dB
Sideband Suppression <sup>2</sup>			-40	-30	dBc
RF Harmonic Spurious	MXRF, M=3, 4, 5		-10		dBc
Operating Temperature Range		-40		+85	°C
RF/IF Input Power w/o Damage				+25	dBm

Notes:

1. Standard unit is configured for USB operation and 10 MHz to 50 MHz IF band option.
2. Specified over entire IF frequency band.



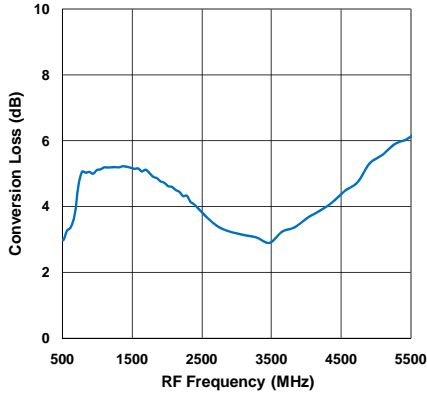
**BLOCK DIAGRAM**  
**(USB CONFIGURATION)**



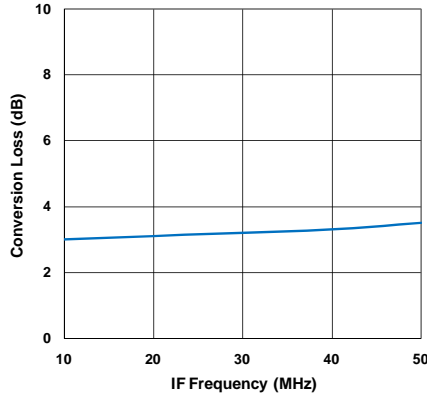
### TYPICAL PERFORMANCE CHARACTERISTICS

Standard Test Conditions: +25°C, RF Input = +5 dBm, IF input = 0 dBm @ 30 MHz

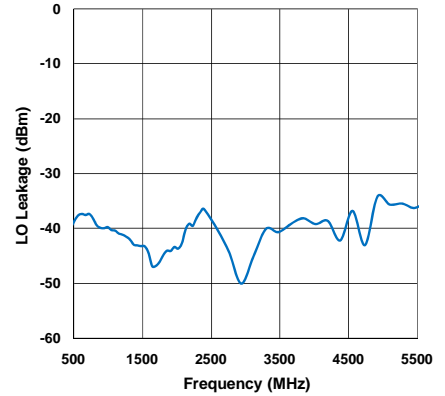
**Conversion Loss vs. RF**



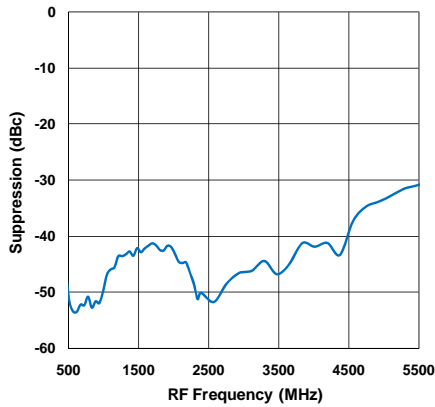
**Conversion Loss vs. IF**



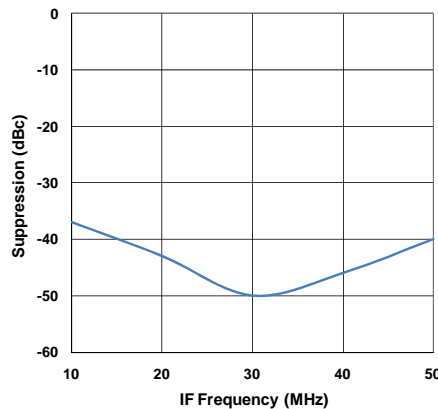
**LO Leakage**



**Sideband Suppression vs. RF**



**Sideband Suppression vs. IF**



### CASE DRAWING

