EWV1102YF

September 2009– Rev 1
Production

Voltage Controlled Oscillators - Packaged

Features

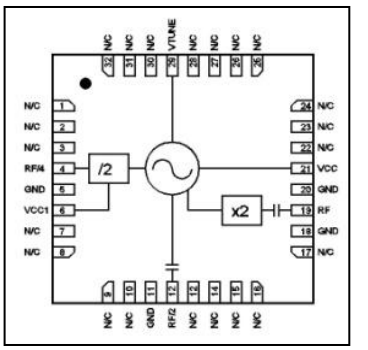
- Dual Output Frequencies
- Push-push Architecture
- Phase Noise: -110 dBc/Hz @ 100 kHz
- Output Power at fout: +10 dBm
- Output Power at fout/2: +6 dBm
- Integrated Divide by 2 Prescaler
- Package: 5 x 5 mm, 32 Lead QFN

Device Photo

Description

The Endwave *EWV1102YF* is a high performance 2 um InGaP/GaAs HBT MMIC voltage controlled oscillator which provides a set of dual outputs ideal for applications which require 5.3 to 5.9 or 10.6 to 11.8GHz outputs. The device boasts state of the art phase noise at better than -110 dBc/Hz at a 100 kHz offset.

Block Diagram



Electrical Characteristics (Temperature = +25 °C)

Parameter	Min	Typ	Max	Units
Frequency Range (fout)	10.6		11.8	GHz
Frequency Range (fout/2)	5.3		5.9	GHz
Output Power (fout)	+6		+14	dBm
Output Power (fout/2)	+3		+9	dBm
Output Power (fout/4)	-5		+1	dBm
Phase Noise @ fout 100 kHz Offset, Vt = +5V		-110		dBc/Hz
Tune Voltage	2		13	V
Supply Current		290		mA
Tune port leakage current (Vtune = 13V			10	uA
Output return loss		5		dB
Harmonic / Subharmonics ½ 2nd		 40 40		 dBc dBc
Pulling (into a 2:1 VSWR)		10		MHz pp
Pushing @ Vtune = 5V		12		MHz/V
Frequency Drift Rate		1		MHz/ C

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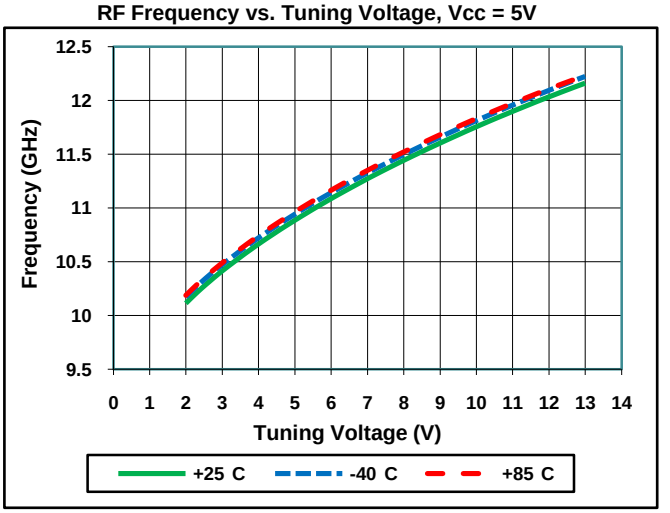
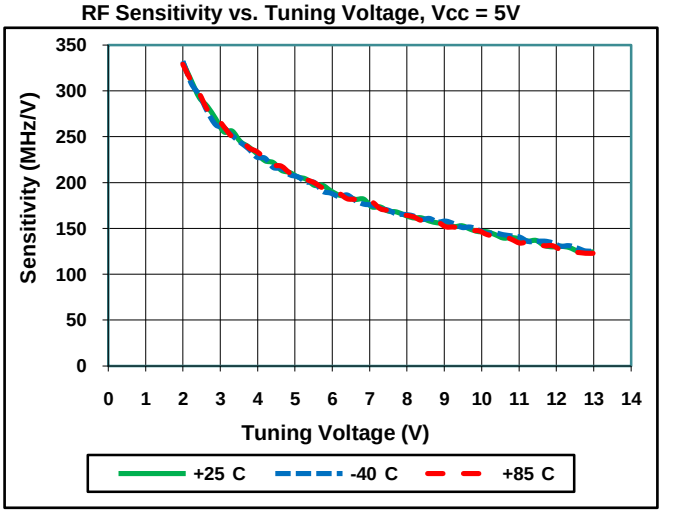
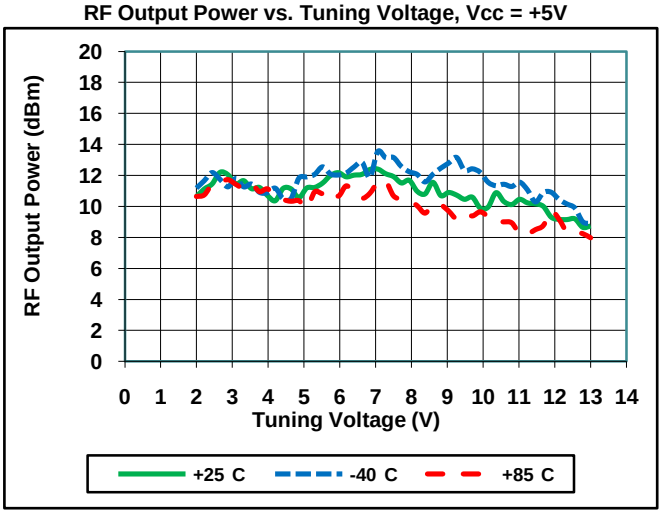
RF Frequency vs. Tuning Voltage, Vcc = 5V



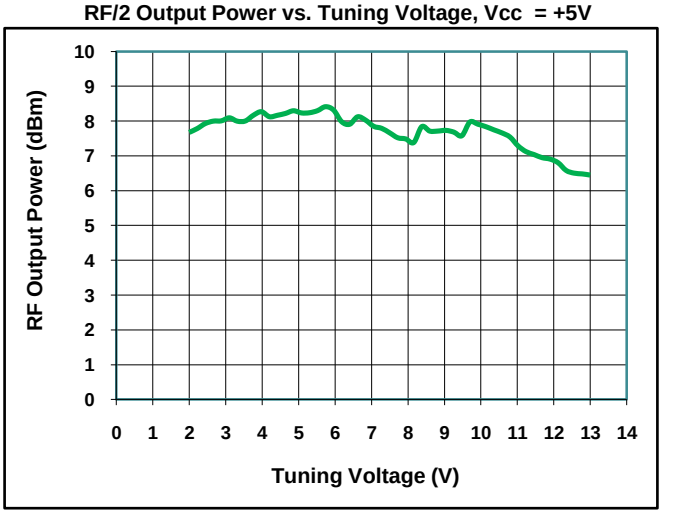
RF Sensitivity vs. Tuning Voltage, Vcc = 5V



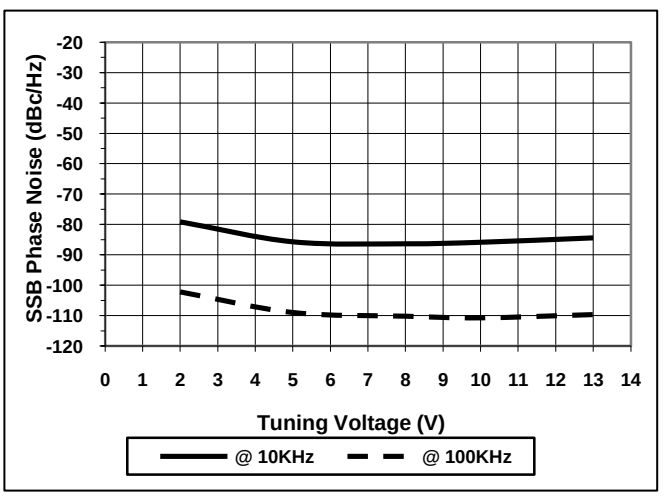
RF Output Power vs. Tuning Voltage, Vcc = +5V



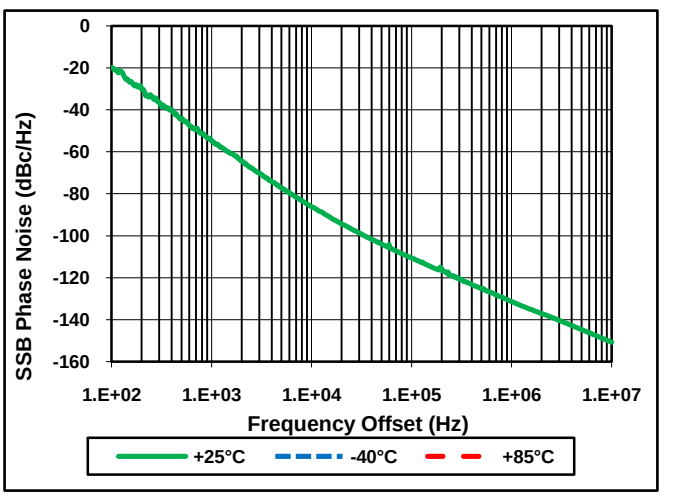
RF/2 Output Power vs. Tuning Voltage, Vcc = +5V



SSB Phase Noise @ RF Output vs Tuning Voltage



SSB Phase Noise @ RF Port / Vtune = 8V



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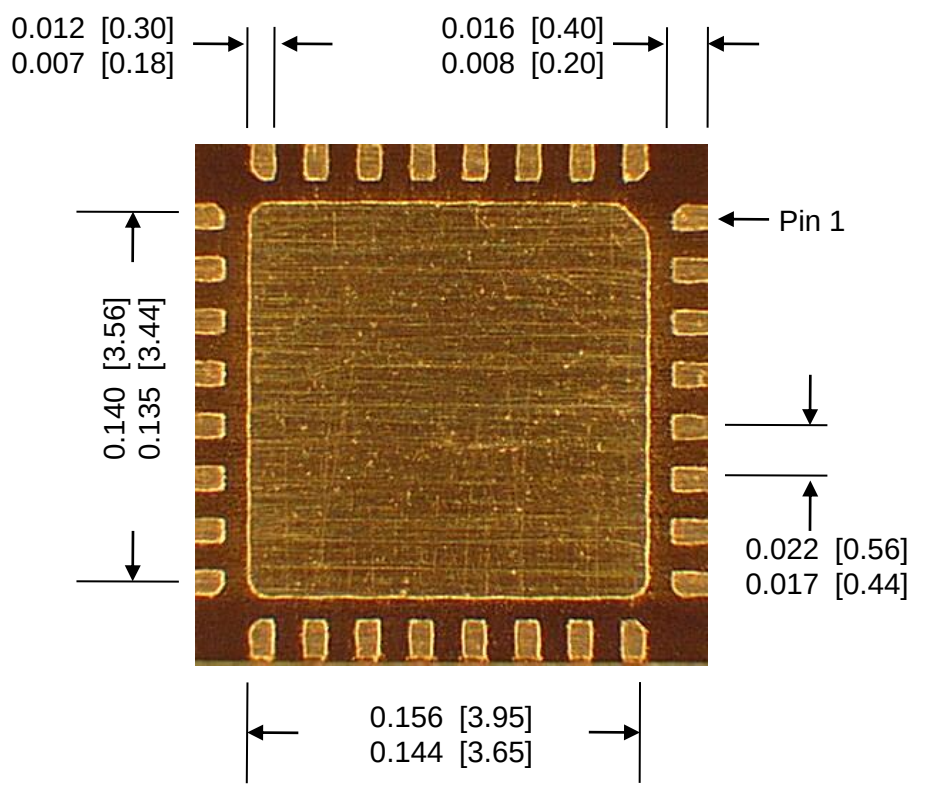
DC & RF Pinout

Pin Number	Function
1-3, 5, 7-11, 13-17, 22-28, 30-32	No Connection
18, 20	Ground (or no connection)
19	RF Output (fout)
12	RF Output (fout/2)
4	RF Output (fout/4)
6	Vcc1 for Prescaler
21	Vcc2 for VCO
29	Vtune

Outline Drawing

"F" Package – 5 x 5 mm size, 32 lead



Notes:
1. Leadframe material is a copper alloy.
2. Dimensions are in inches (millimeters).
3. Min and max dimensions shown.
4. Ground paddle must be soldered to ground. Damage will result if not properly connected.

Endwave Corporation 130 Baytech Drive San Jose CA 95134 877-Endwave
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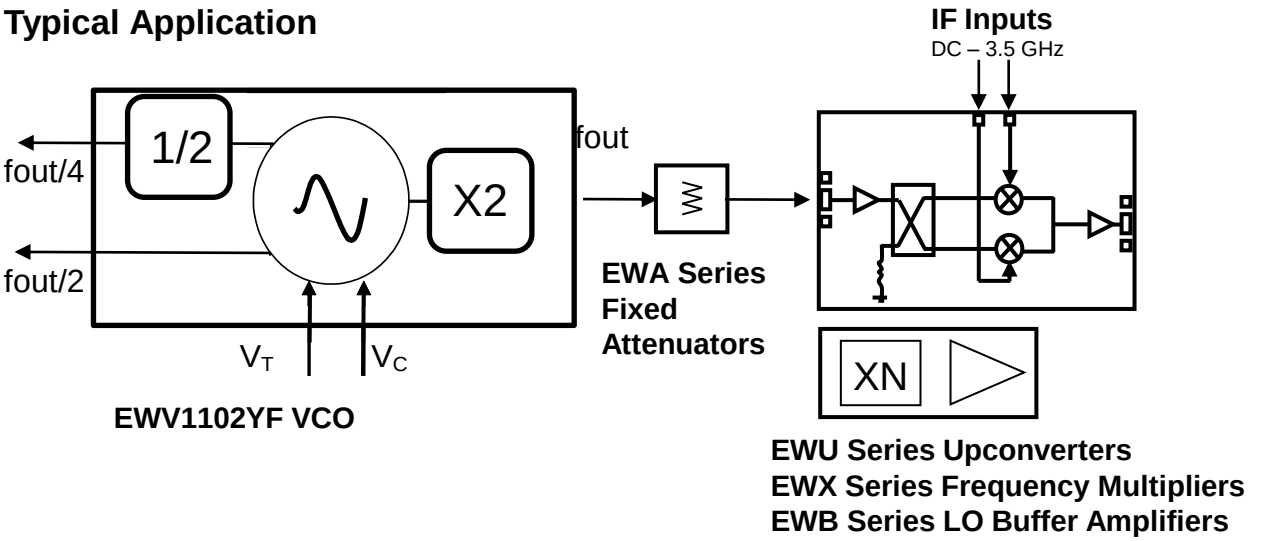
Absolute Maximum Ratings

Supply Voltage, Vcc	+5.5V
Tune Voltage, Vt	0 to +15 V
Channel Temperature	135 ºC
Continuous Power Dissipation at 25 C	1.32 W
Supply Current, Icc	330 mA
Storage Temperature	-65 to +150 ºC
Operating Temperature	-40 to +85 ºC

Typical Application



EWV1102YF VCO

EWU Series Upconverters
EWX Series Frequency Multipliers
EWB Series LO Buffer Amplifiers

Support Documentation

Support documentation including Assembly Notes, Application Notes and Qualification Procedures can be found on our website at www.endwave.com.

Ordering Information

Part Number	Description
EWV1102YF	Plastic QFN RoHS compliant SMT Package Outline “F”
EWV1102EV	*EWV1102YF* on evaluation PCB

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