

Typical applications

Fully Integrated VCO can be used in:

- Short Range High Capacity Links,
- V Band Applications,
- Mobile Terminals,
- Battery Operated Devices.

Features

Pout: +4 dBm

Phase Noise: -99 dBc/Hz @ 1 MHz

Modulation Bandwidth: 1 GHz

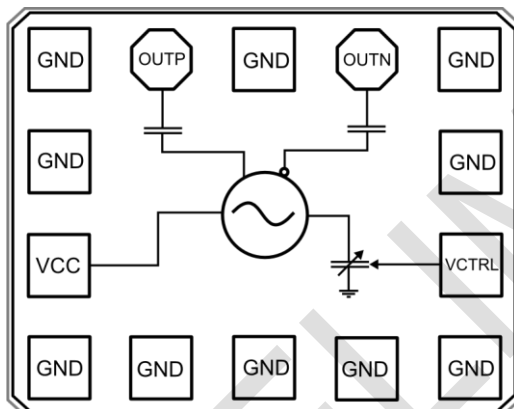
100 Ω Differential Outputs

Supply Voltage: +3.0 V

Power Consumption: 72 mW

Die Size: 0.5 x 0.4 mm²

Functional diagram



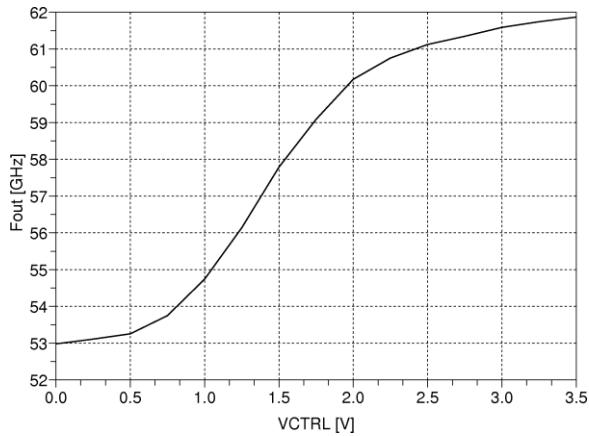
General description

The TS-VCO-60 is a MMIC voltage controlled oscillator intended for use in 60 GHz applications. Differential 100 Ω outputs can directly drive the mixer, without the need for a balun. Wide Modulation Bandwidth of 1 GHz enables the use as a FM modulator. Power consumption of only 72 mW makes it an ideal candidate for battery operated devices.

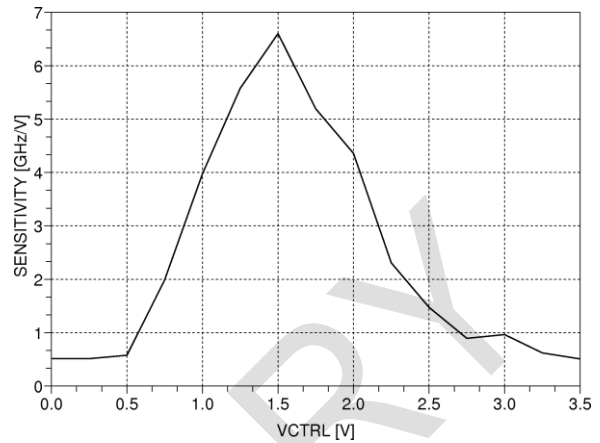
Electrical specifications, $T_A=25\text{ }^\circ\text{C}$, 50 Ohm system, Measured with 1:2 Balun, $V_{CC}=3.0\text{V}$

Parameter	Min	Typ.	Max	Units
Frequency Range	53 – 62			GHz
Power output	0		4	dBm
SSB Phase Noise @ 1 MHz Offset		-99		dBc/Hz
Tune Voltage	0		3	V
Supply Current		24		mA
Modulation Bandwidth (VCTRL = 1.5 V)		1		GHz

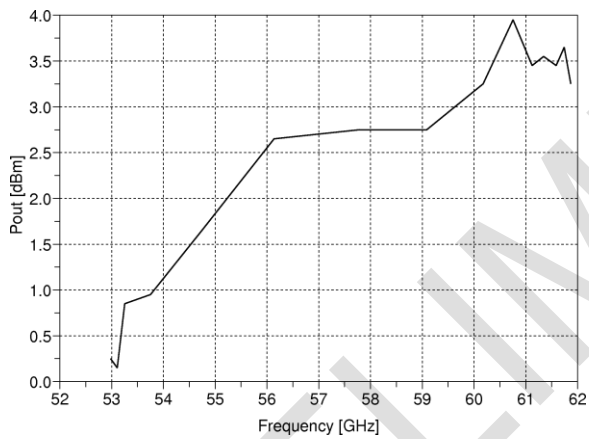
Frequency vs. Tuning Voltage



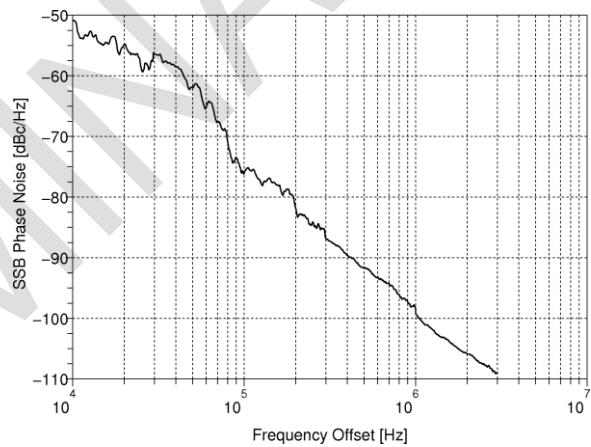
Sensitivity vs. Tuning Voltage



Output Power vs. Frequency



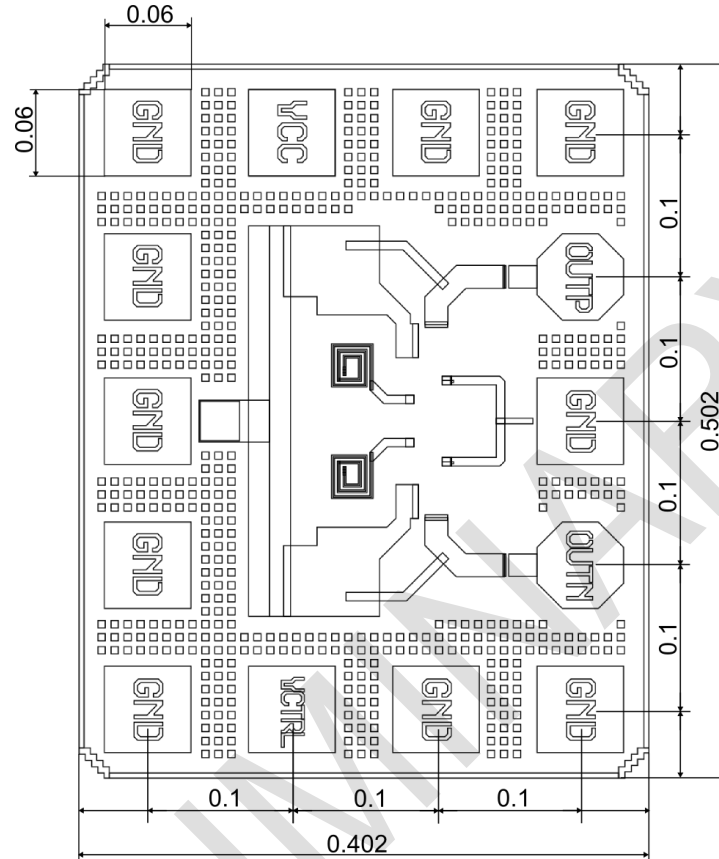
SSB Phase Noise



Absolute Maximum Ratings

Parameter	Min	Typ.	Max	Units
Supply Voltage			3.2	V
Control Voltage			3.5	V
Operating Temperature	TBD		TBD	°C
Storage Temperature	-50		150	°C

Outline Drawing and Chip Identification Information

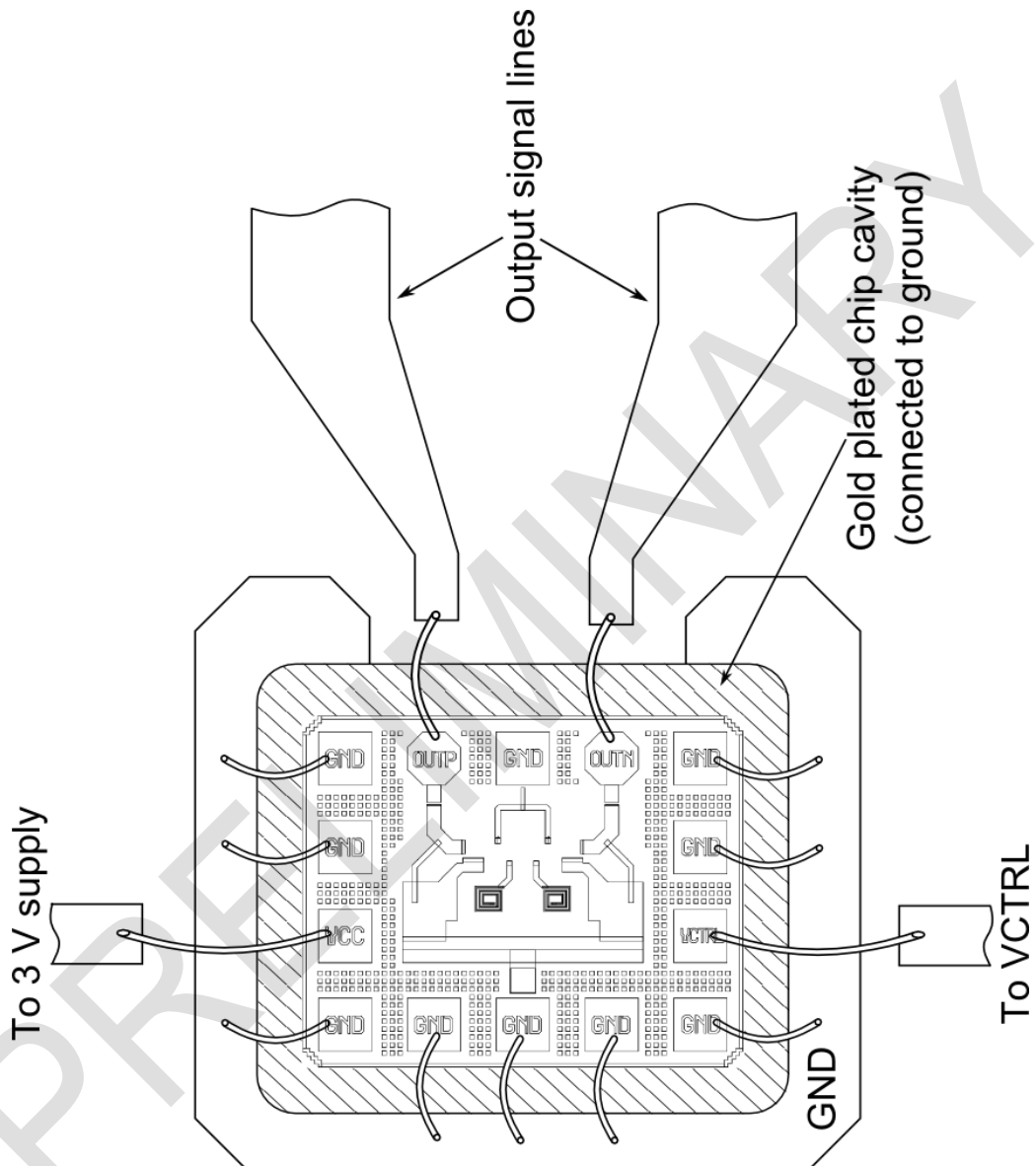


**ELECTROSTATIC SENSITIVE DEVICE
HANDLE IN ESD SAFE ENVIRONMENT**

Pad Descriptions

Pad	Function	Description	Interface
VCC	Power	3.0 V DC Supply	Power
VCTRL	Control	0 -3 V Control Voltage	Control
GND	Power	Ground	Power
OUTP	Output	Differential signal output +	AC coupled
OUTN	Output	Differential signal output -	AC coupled

Assembly Diagram



All bonds should be as short as possible.

Revision information

Version	Change List
1.0	Preliminary data

PRELIMINARY

Notes:

PRELIMINARY

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