FVC99

Hybrid VCO 9.8 - 10.1 GHz

HYBRID VCO

Features

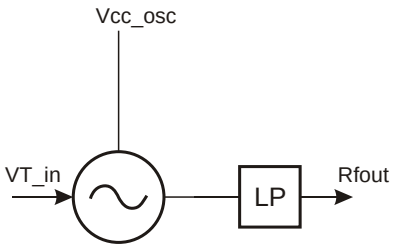
- Low Phase Noise
- No External Resonator Needed
- Single Supply: +5.0 V
- Package 22 x 20.8 mm²

Typical Applications

Low Noise VCO for X-Band Applications such as:

- High Speed Optical Network
- Clock Generation and
- Clock Recovery
- Satellite Communications
- Microwave Sensors
- other ISM Applications

Functional Diagramm



General Description

These oscillators are built up in hybrid technology. They are designed for high frequency stability and signal purity.

Customized Products

for other specifications
or frequencies contact factory

Electrical Specifications, T_A = 25° C, V_{CC} = +5.0 V

Parameter	Conditions	Min.	Typ.	Max.	Units
Frequency Range			9.8 - 10.1		GHz
Power Output (Rfout)	Vcc_amp = 5.0 V	0	2	4	dBm
SSB Phase Noise	300 kHz Offset, Vtune = +2.5 V		< - 110		dBc/Hz
SSB Phase Noise	3 Mhz Offset, Vtune = +2.5 V		< - 115		dBc/Hz
Supply Current (Icc_osc)	Vcc = 5.0 V			< 50	mA
Tune Port Leakage Current				10	µA
Tune Voltage (Vtune)		0		8	V
Output Return Loss			10		dB
Harmonics 2nd 3rd			-25 -35		dB dB
Pushing	Vtune = +2.5V		< 90		MHz/V
Pulling	into a 2.0:1 VSWR		< 100		MHz pp
Frequency Drift Rate			8		MHz/°C

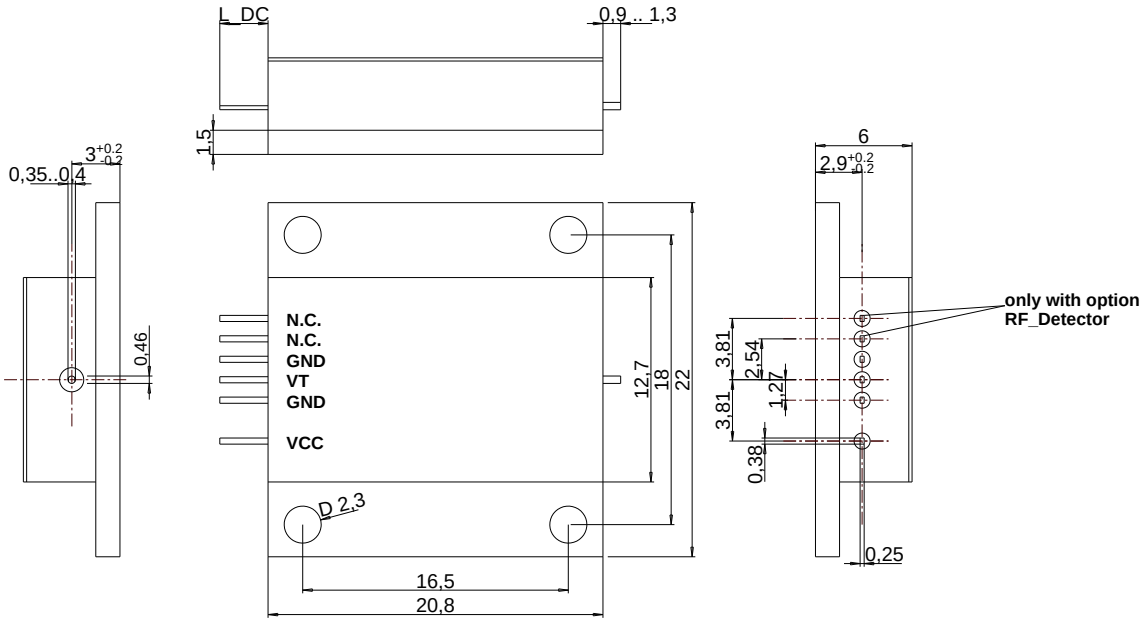
Absolute Maximum Ratings

Vcc	6 V
Vtune	0 to +6 V
DC Voltage @ RFout	-6 to +6 V
Operating Temperature	-20 to +80° C
Storage Temperature	-60 to +145° C

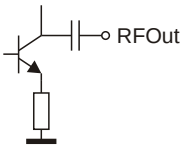
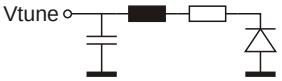
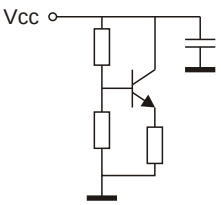
Typical Supply Current vs. Vcc

Vcc (V)	Sum of Icc (mA)
5.0	max. 90 / typ. 38

Outline Drawing



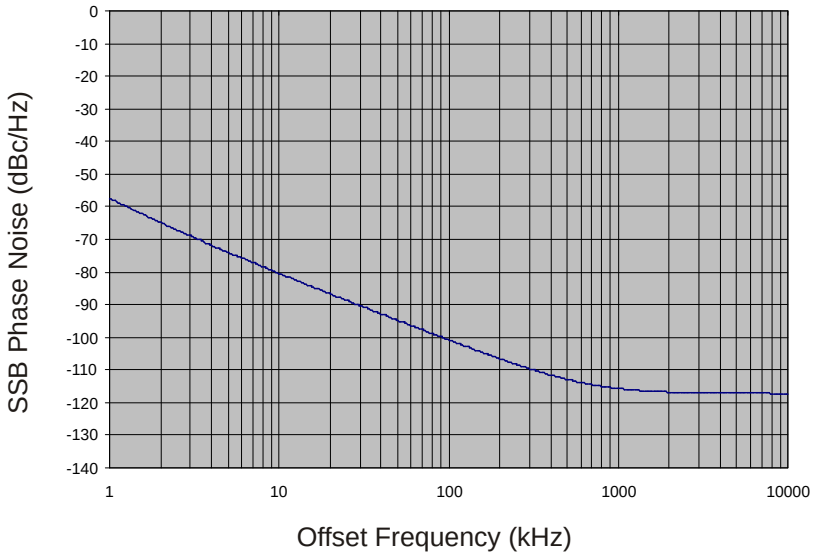
Pin Description

Pin Number	Function	Description	Interface Schematic
3,4	GND	Ground	
7	Rfout	RF output	
1	VT_in	Control Voltage Input	
6	Vcc_osc	Oscillator Supply Voltage*	

* **Note**: external Bypass Capacitors of > 10nF X7R needed

Typical SSB Phase Noise (Vtune = 1.5 V)

T = 25° C



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