



VCO

GRV02

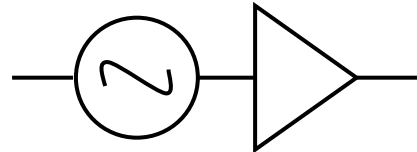
Description

The **GRV02** is 10 to 15 GHz; broadband VCO designed on 2 um GaAs HBT Technology. The resonator part is split on-chip inductor and off-chip Varactor. The VCO consumes only 3.5 mA current and the layout is very tiny.

The phase noise of the GEV03 can be improved using the high Q off chip resonator.

The buffer Amplifier is followed by the VCO to improve the output.

Functional Diagram



Applications.

- Digital Radio
- SATCOM
- VSAT
- Multipoint Radios
- LMDS (Local Multipoint Distribution Services)

Key Features

- Wide Band Operation
- Low Phase Noise
- Operating Temperature 0 to 85 °C Range
- Pout is 5 dBm

Electrical Specification

Conditions: $V_{cc} = 4.2 V$ & $T_A = 25 ^\circ C$

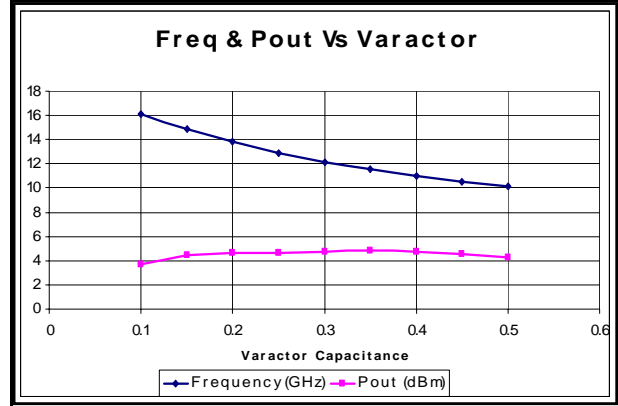
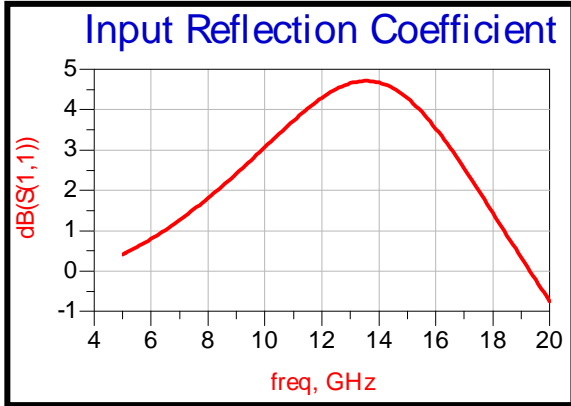
Parameter	Min	Typical	Max	Units
Frequency Range	10.0		15.0	GHz
Pout		5		dBm
Phase Noise @ 15 GHz Offset @ 100kHz @ 1 MHz		-92 -98		dBc dBc
Phase Noise @ 10 GHz Offset @ 100kHz @ 1 MHz		-95 -114		dBc dBc
Input Reflection Coefficient @ 10 GHz @ 15 GHz		3 4		dB dB
Operating Current		3.5		mA
Supply voltage		4.2		V



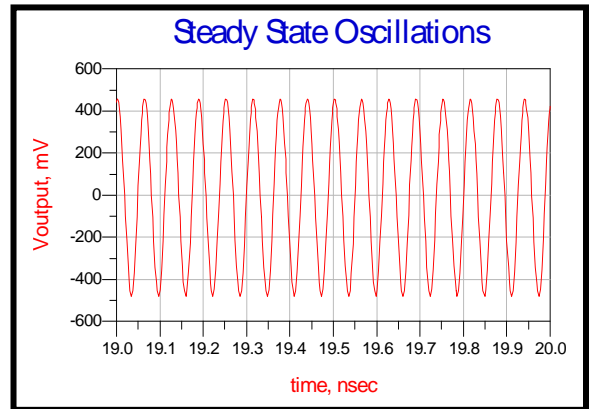
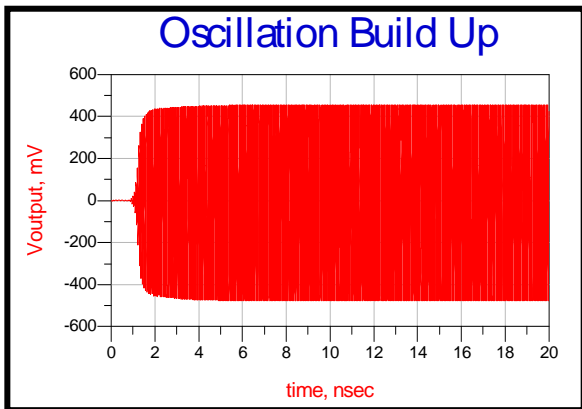
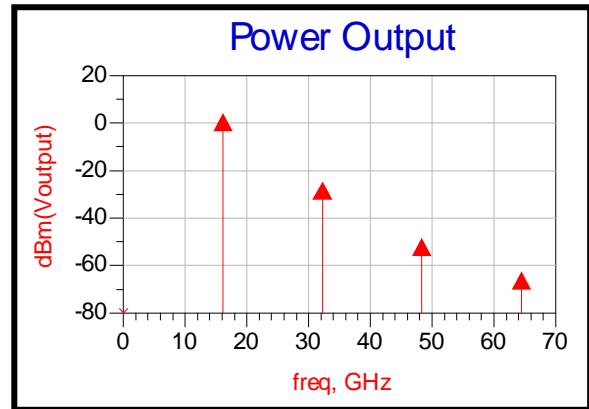
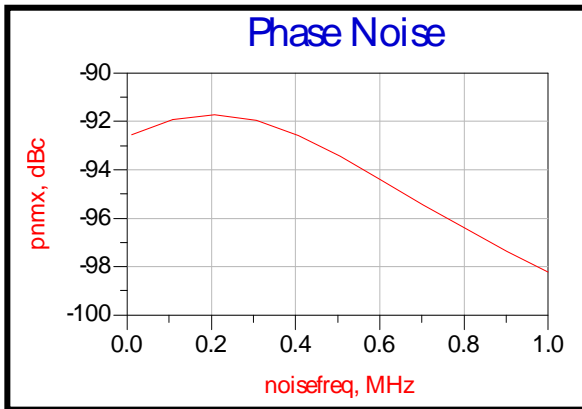
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Simulated Results



Varactor capacitance= 0.1 pF





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Varactor capacitance =0.5 pF

