

Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 400 MHz to 550 MHz, Phase Noise of -95 dBc/Hz and 0.35 inch Package

Voltage Control Oscillators Technical Data Sheet

VC097S8-400-550

Features

- 400 to 550 MHz Bandwidth
- -95 dBc/Hz @ 10kHz offset
- Tuning Voltage 1V to 4V
- Pout = 10 dBm
- Harmonics = -15 dBc
- RoHS Compliant Assembly
- 0.35" SMT package
- Industry Standard Mounting Footprint

Applications

- Phase Locked Loop
- Function Generators
- Frequency Synthesizers
- Receivers
- Electronic Jamming Equipment
- Local Oscillator
- Wireless Communications
- SATCOM
- Optical Communications
- Military Electronic Systems

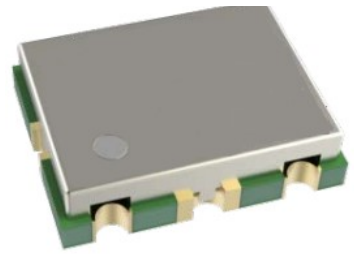
Description

The VCO97S8-400-550 is a High Reliability Low Noise Voltage Controlled Oscillator (VCO) which covers a 400 MHz to 550 MHz frequency band with a voltage tuning range from 1V to 4V. This design features exceptional phase noise performance of -95 dBc/Hz@10 kHz offset. Supply Voltage is +5V with a generated output power level of +10 dBm and 2nd harmonic output of -15 dBc typical. The assembly is RoHS compliant and available in a compact 0.5 inch SMT package with an industry standard mounting footprint. The bottom surface is copper clad with 2-5 micro inches of immersion Gold over 150 - 250 micro inches of Electro less Nickel which makes it resistant to oxidation for ease of soldering. The VCO operates over a temperature range of -40°C to +85°C .

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	380		570	MHz
Tuning Voltage	0		5	Vdc
Supply Voltage (DC)	3	5	6	Vdc
Supply Current (DC)		17	19	mA
Phase Noise @ 10kHz Offset		-95	-91	dBc/Hz
Phase Noise @ 100kHz Offset		-115	-111	dBc/Hz
Phase Noise @ 1MHz Offset		-145	-141	dBc/Hz
Output Power	10	11		dBm
Tuning Sensitivity (Kvco)	65		35	MHz/V
Pushing		2	2.5	MHz/V
Pulling (pk-pk)		1	1.5	MHz
Tuning Port Capacitance		470		pF
Load Impedance		50		Ohms
2nd Harmonics		-15	-10	dBc

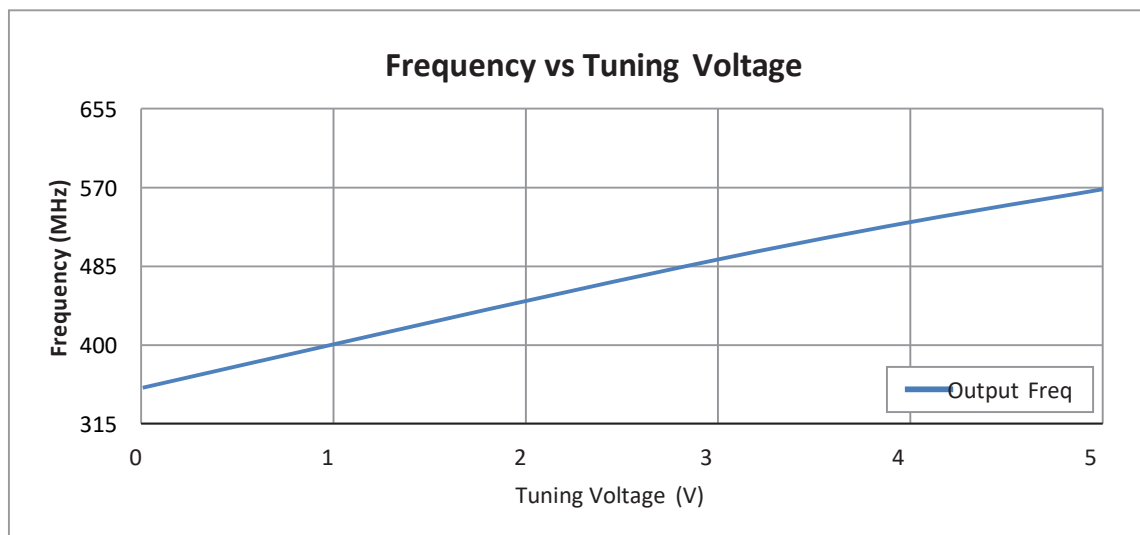
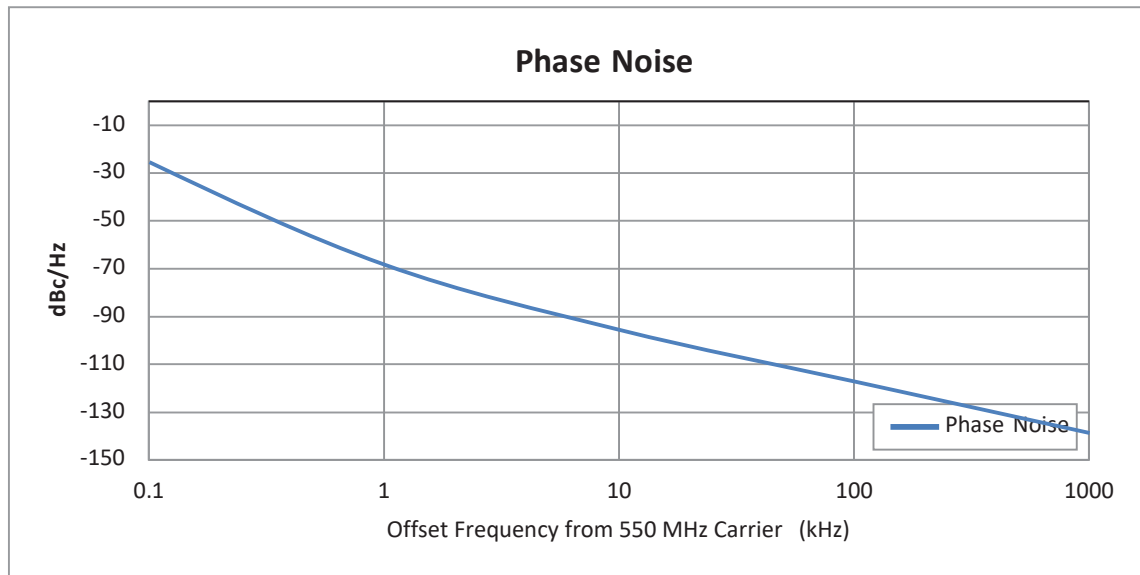
Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 400 MHz to 550 MHz, Phase Noise of -95 dBc/Hz and 0.5 inch Package VCO97S8-400-550



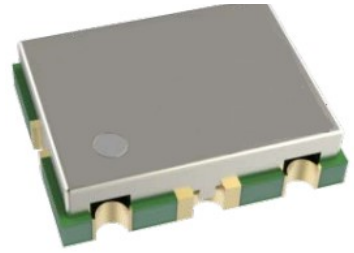
Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 400 MHz to 550 MHz, Phase Noise of -95 dBc/Hz and 0.35 inch Package

Voltage Control Oscillators Technical Data Sheet

Typical Performance Data

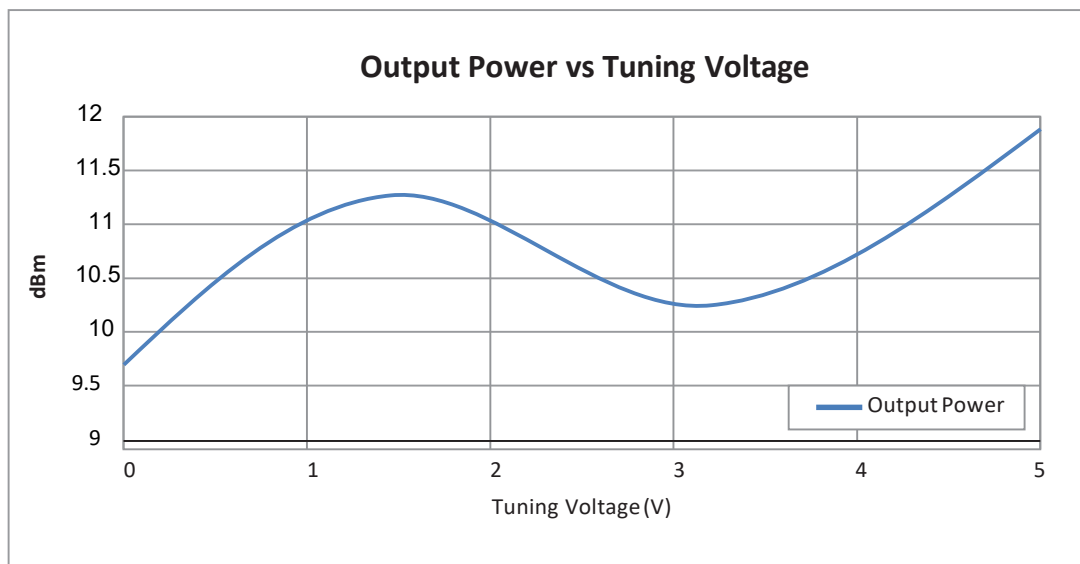
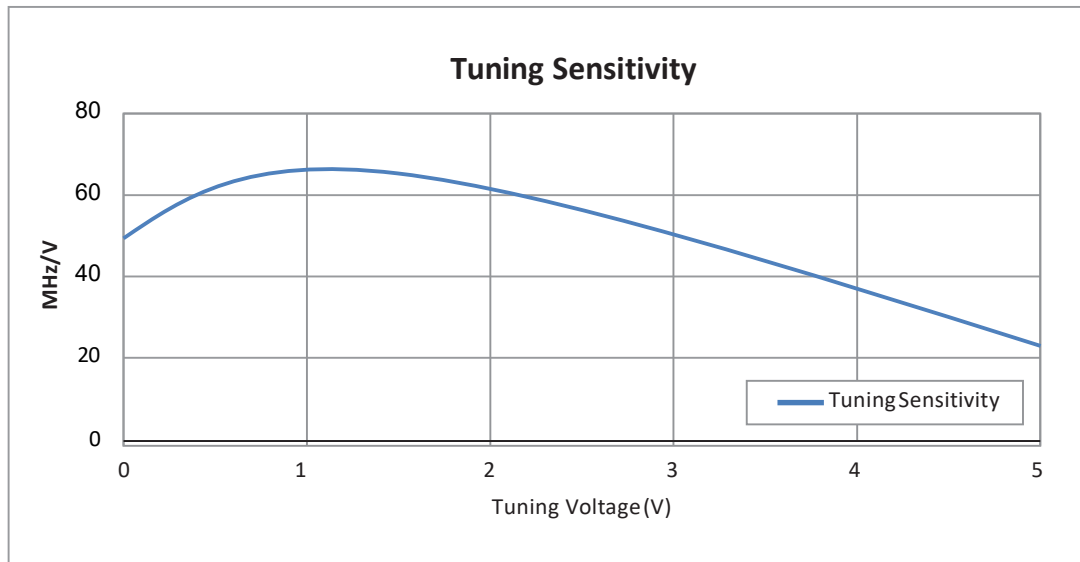


Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 400 MHz to 550 MHz, Phase Noise of -95 dBc/Hz and 0.5 inch Package VCO97S8-400-550

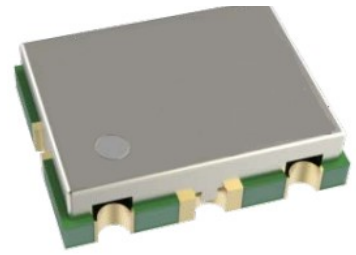


Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 400 MHz to 550 MHz, Phase Noise of -95 dBc/Hz and 0.35 inch Package

Voltage Control Oscillators Technical Data Sheet

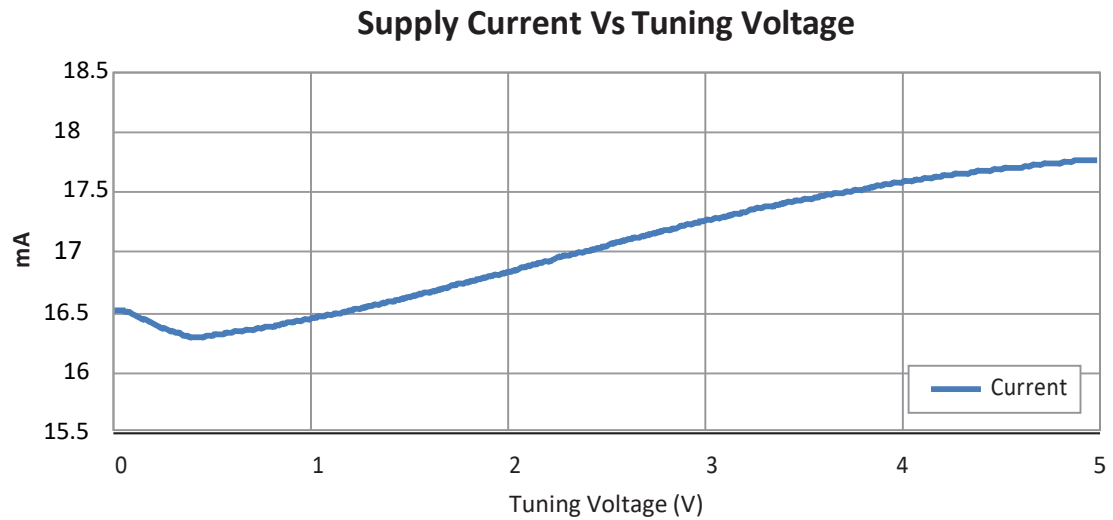


Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 400 MHz to 550 MHz, Phase Noise of -95 dBc/Hz and 0.5 inch Package VCO97S8-400-550

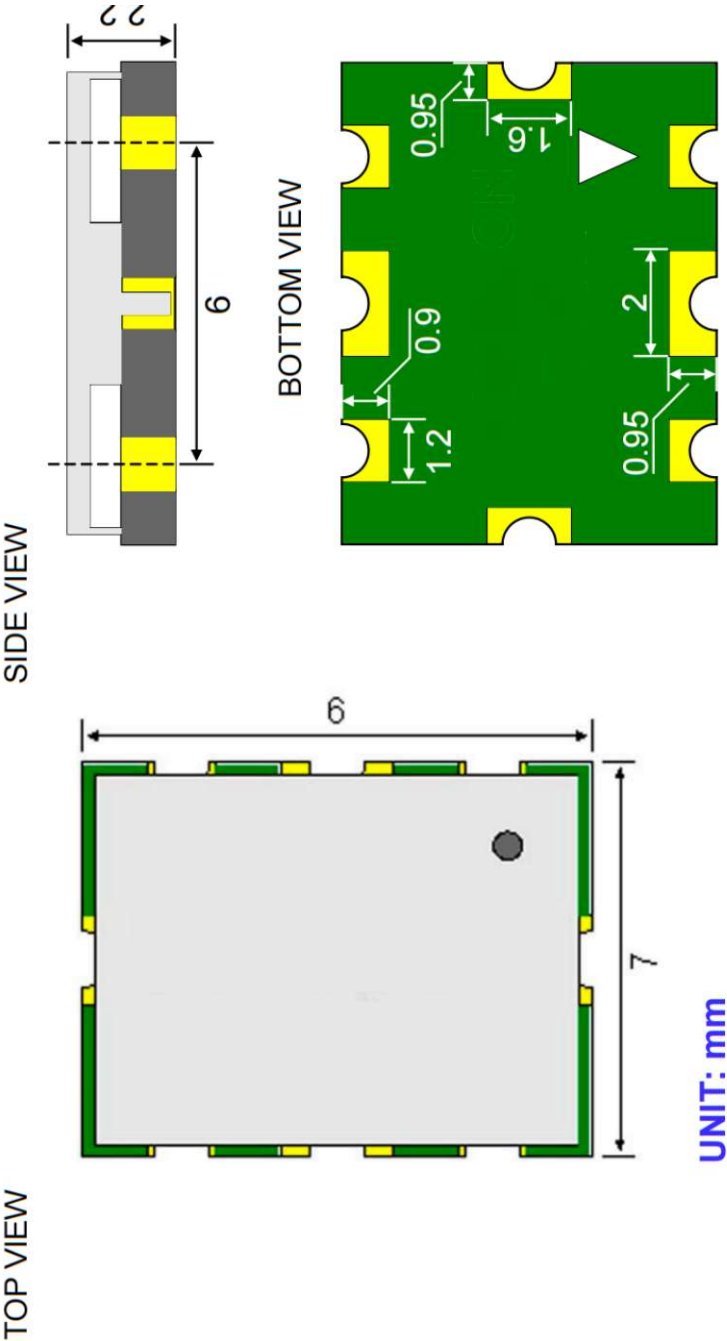


Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 400 MHz to 550 MHz, Phase Noise of -95 dBc/Hz and 0.35 inch Package

Voltage Control Oscillators Technical Data Sheet



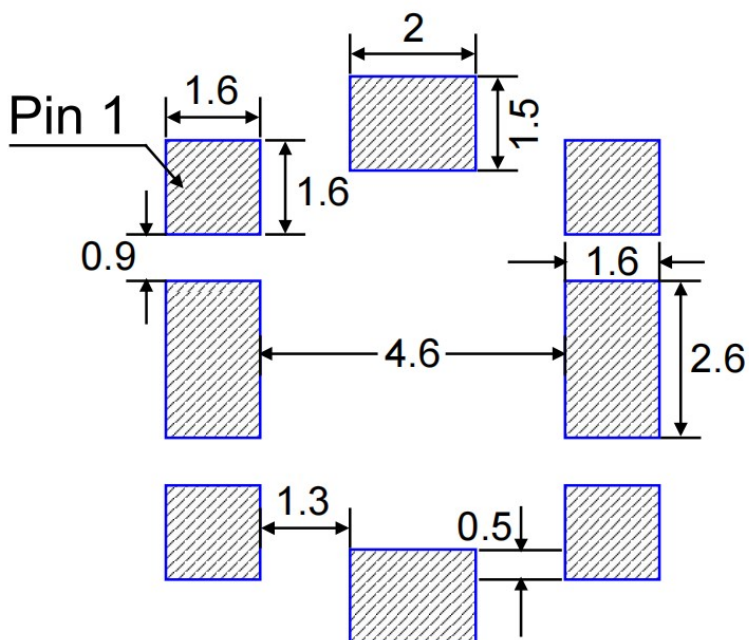
Surface Mount (SMT) Voltage Controlled Oscillator (VCO) From 400 MHz to 550 MHz, Phase Noise of -95 dBc/Hz and 0.5 inch Package VCO97S8-400-550



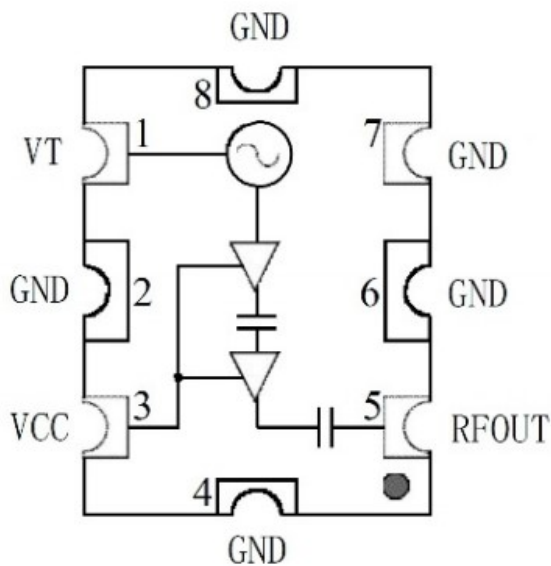
- 1. THE CASE IS GROUND.
- 2. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES [mm].
- 3. UNLESS OTHERWISE SPECIFIED FINISH IS 150*250 MICRO INCHES ELECTROLESS NICKEL OVER COPPER CLAD PCB, 2*5 MICRO INCHES IMMERSION GOLD, OVER II

DWG TITLE	NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS AR			
	. 53919	CAD FILE 021216	SCALE N/A	SIZE 2233

回流焊盘尺寸图



UNIT: mm



引脚定义

编号	编码	描述	编号	编码	描述
1	VT	调谐电压	5	RFOUT	射频输出
2	GND	地	6	GND	地
3	VCC	供电电压	7	GND	地
4	GND	地	8	GND	地

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE

DWG TITLE

2233

SIZE A

SCALE N/A

CAD FILE 021216

53919

1. THE CASE IS GROUND.
2. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES [mm].
3. UNLESS OTHERWISE SPECIFIED FINISH IS 150/250 MICRO INCHES ELECTROLESS NICKEL OVER COPPER CLAD PCB, 2.5 MICRO INCHES IMMERSION GOLD, OVER NICKEL.
4. MOD PORT NOT AVAILABLE ON ALL MODELS.