VCO190-2420TY

5V NARROWBAND VOLTAGE CONTROLLED OSCILLATOR

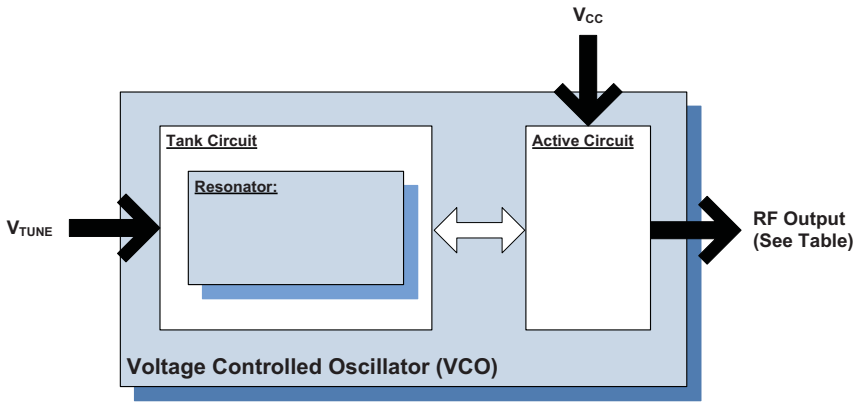
Package: T-Package, 12.7mm x 12.7mm x 3.96mm

Features

- Linear Tuning/Low Phase Noise
- Multiple Supply Voltage and Package Options Available
- Low-Cost/High-Volume Series
- Frequency: 2370MHz to 2470MHz
- Resonator: Aircoil or Microstrip
- PCB: FR-4 and S1170
- Package Size: 12.7mm x 12.7mm x 3.96mm (0.5in x 0.5in x 0.156in)

Applications

- Wireless Infrastructure
- RFID
- General Wireless



Functional Block Diagram

Product Description

This series of narrowband, low-cost, 5V VCO modules offers linear tuning across their specified frequency band.

Ordering Information

VCO190-2420TY Contact us at 1-480-756-6070

Optimum Technology Matching® Applied

☐ GaAs HBT	☐ SiGe BiCMOS	☐ GaAs pHEMT	☐ GaN HEMT
☐ GaAs MESFET	☐ Si BiCMOS	☐ Si CMOS	☐ BiFET HBT
☐ InGaP HBT	☐ SiGe HBT	☑ Si BJT	☐ LDMOS

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Absolute Maximum Ratings

Parameter	Rating	Unit
Operating Ambient Temperature	-35 to +85	°C
Storage Temperature	-55 to +125	°C

Caution! ESD sensitive device.

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

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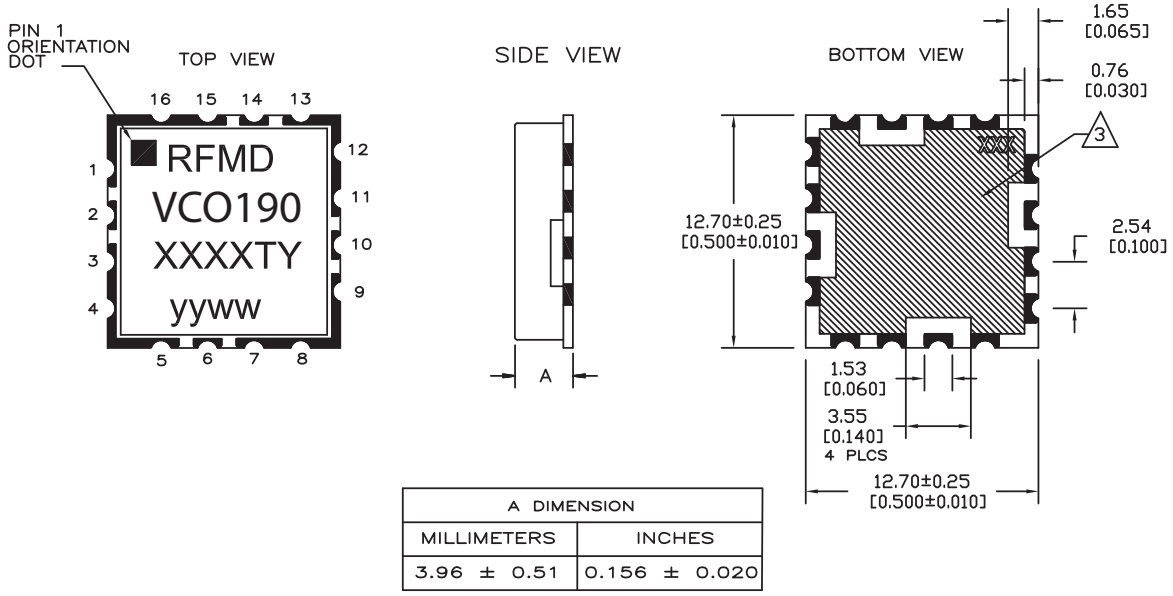
RoHS (Restriction of Hazardous Substances): Compliant per EU Directive 2002/95/EC.

Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
Overall					
Frequency Range	2370	2420	2470	MHz	
Tuning Voltage	0.5	1		V_{DC}	2370MHz
		4	4.5	V_{DC}	2470MHz
Tuning Sensitivity	35	45	55	MHz/V	
Output Power	-1	2	5	dBm	
Output Phase Noise		-98	-90	dBc/Hz	10kHz
		-119	-110	dBc	100kHz
Harmonic Suppression		-20	-10	dBc	2nd harmonic
		-25	-10	dBc	3rd harmonic
Spurious (Non-Harmonic)			-80	dBc	
Frequency Pushing		1.5	3	MHz p-p	4.75V to 5.25V
Frequency Pulling		2	7.2	MHz p-p	12dB RL
Tuning Port Capacitance			120	pF	
Output Impedance		50		Ω	
Power Supply					
Operating Voltage	4.75	5	5.25	V	
Supply Current		14	16	mA	

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Package Drawing & Pin Outs

12.7mm x 12.7mm x 3.96mm (0.5in x 0.5in x 0.156in)



A DIMENSION	
MILLIMETERS	INCHES
3.96 ± 0.51	0.156 ± 0.020

PIN OUT FOR VCO	
PIN	APPLICATION
2	Vt
6	MODULATION (OPT)
10	RF OUT
14	VCC

ALL OTHER PINS ARE GROUND

NOTE, UNLESS OTHERWISE SPECIFIED:

1. THE METAL CASE IS GROUND.
2. ALL HALF VIA CONTACTS ARE PLATED THRU FROM THE PAD ON THE TOP SIDE TO THE PAD ON THE BOTTOM SIDE OF THE BOARD.
3. HATCHED AREAS ARE GROUND AND ARE COVERED WITH LPI SOLDER MASK OVER BARE COPPER. ALL CONTACT AREAS ARE PLATED. SIGNAL VIAS MAY BE LOCATED WITHIN GROUND PLANE.
4. CROSS HATCHED AREA INDICATES AREA WHERE SOLDER MASK SHOULD BE APPLIED TO MOUNTING BOARD.
5. XXXX REPRESENTS THE MODEL NUMBER.
6. yyww IS THE DATE CODE.
7. Y AT THE END OF THE MODEL NUMBER DESIGNATES RoHS COMPLIANCE.
8. DIMENSIONS ARE IN MILLIMETERS AND [INCHES].

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