RFMD
rfmd.com

VCO190-1007UY

5V NARROWBAND VOLTAGE CONTROLLED OSCILLATOR

Package: U-Package, 12.7mm x 12.7mm x 2.79mm

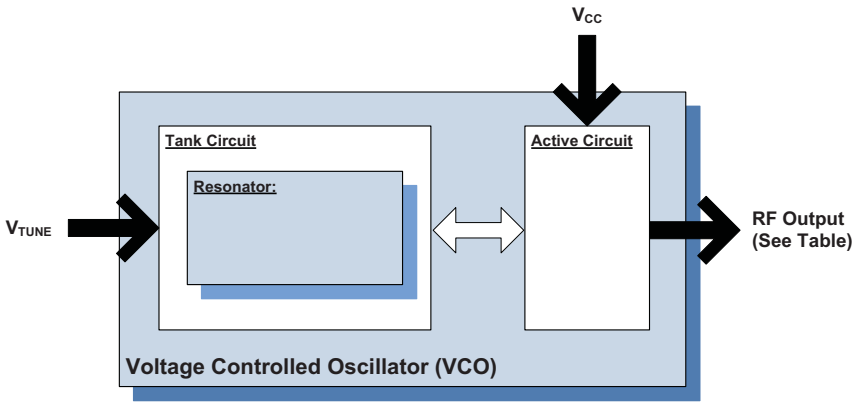
RoHS

Features

- Linear Tuning/Low Phase Noise
- Multiple Supply Voltage and Package Options Available
- Low-Cost/High-Volume Series
- Frequency: 994MHz to 1019MHz
- Resonator: Aircoil or Microstrip
- PCB: FR-4 and S1170
- Package Size: 9.5mm x 9.5mm x 2.79mm (0.374in x 0.374in x 0.11in)

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

VCO190-1007UY 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

7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or customerservice@rfmd.com.

RFMD
rfmd.com

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.

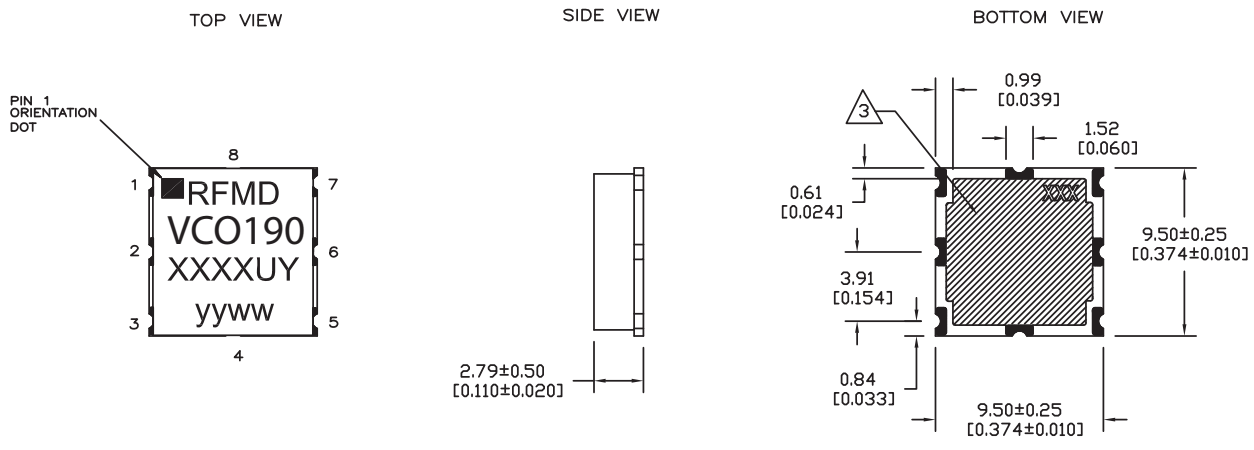
RoHS (Restriction of Hazardous Substances): Compliant per EU Directive 2002/95/EC.

Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
Overall					
Frequency Range	994	1007	1019	MHz	
Tuning Voltage	1	1.4		V_{DC}	994MHz
		3.8	4.2	V_{DC}	1019MHz
Tuning Sensitivity	15	18	20	MHz/V	
Output Power	0	3	6	dBm	
Output Phase Noise		-112	-106	dBc/Hz	10kHz
		-132	-126	dBc/Hz	100kHz
Harmonic Suppression		-15	-10	dBc	2nd harmonic
		-20	-10	dBc	3rd harmonic
Spurious (Non-Harmonic)			-90	dBc	
Frequency Pushing		0.4	1	MHz p-p	4.75V to 5.25V
Frequency Pulling		1	2	MHz p-p	12dB RL
Tuning Port Capacitance		47		pF	
Output Impedance		50		Ω	
Power Supply					
Operating Voltage	4.75	5	5.25	V	
Supply Current		22	25	mA	

7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at **(+1) 336-678-5570** or **customerservice@rfmd.com**.

Package Drawing & Pin Outs

9.5mm x 9.5mm x 2.79mm (0.374in x 0.374in x 0.11in)



PIN OUT FOR VCO	
PIN	APPLICATION
1	Vt
3	VCC
5	RF OUT
7	MODULATION (OPT)

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. SUBSTRATE MATERIAL: FR-4.
6. XXXX REPRESENTS THE MODEL NUMBER.
7. yyww IS THE DATE CODE.
8. Y AT THE END OF MODEL NUMBER DESIGNATES RoHS COMPLIANCE.
9. DIMENSIONS ARE IN MILLIMETERS AND [INCHES].

7628 Thorndike Road, Greensboro, NC 27409-9421 · For sales or technical support, contact RFMD at (+1) 336-678-5570 or customerservice@rfmd.com.