

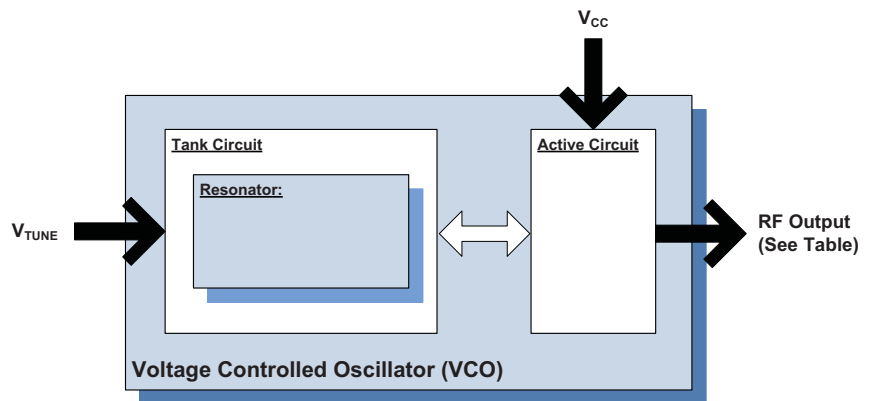


Features

- Linear Tuning/Low Phase Noise
- Multiple Supply Voltage and Package Options Available
- Low-Cost/High-Volume Series
- Frequency: 950MHz to 2150MHz
- 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 wideband, low-cost VCO modules offers linear tuning across their specified frequency band.

Ordering Information

VC0790-1550TY 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 |

Absolute Maximum Ratings

Parameter	Rating	Unit
Operating Ambient Temperature	-40 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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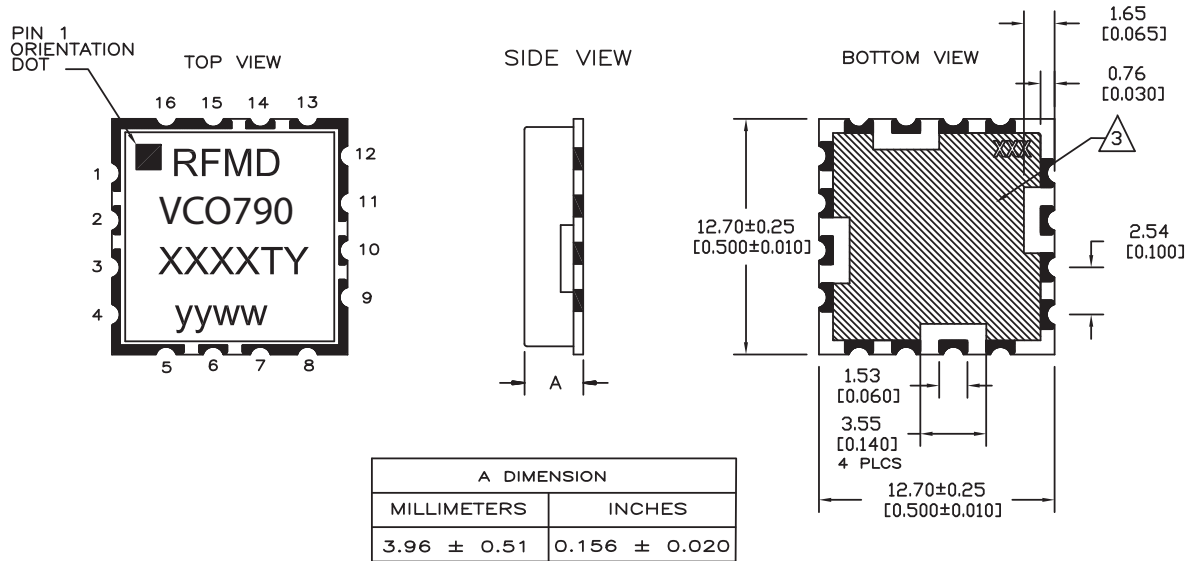


RoHS (Restriction of Hazardous Substances): Compliant per EU Directive 2002/95/EC.

Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
Overall					
Frequency Range	950		2150	MHz	
Tuning Voltage	0.5	1.4		V _{DC}	950MHz
		19	22	V _{DC}	2150MHz
Tuning Sensitivity	60	80	100	MHz/V	950MHz
	50	70	90	MHz/V	1250MHz
	55	75	95	MHz/V	1550MHz
	45	65	85	MHz/V	1850MHz
	35	55	75	MHz/V	2150MHz
Output Power	3	6	9	dBm	
Output Phase Noise		-70	-65	dBc/Hz	1kHz
		-98	-93	dBc/Hz	10kHz
		-118	-113	dBc/Hz	100kHz
		-138	-133	dBc/Hz	1000kHz
Harmonic Suppression		-8	-4	dBc	2nd harmonic
		-18	-10	dBc	3rd harmonic
Spurious (Non-Harmonic)			-80	dBc	
Frequency Pushing		2.5	5	MHz p-p	4.75V to 5.25V
Frequency Pulling		10	15	MHz p-p	12dB RL
Tuning Port Capacitance		100		pF	
Output Impedance		50		Ω	
Power Supply					
Operating Voltage	4.75	5	5.25	V	
Supply Current		25	30	mA	

Package Drawing & Pin Outs

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



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].