

TCXO3410

Low Noise Sine wave 1 GHz TCXO

Features

Frequency Range 200 to 1000 MHz
Ultra Low jitter : 0.25 ps typical (12KHz to 20MHz BW)
Low power : less than 240 mW typical
50 ohm sine wave output

Typical Applications

SONET / SDH / ATM
10 Gigabit Ethernet
Digital Wireless Reference

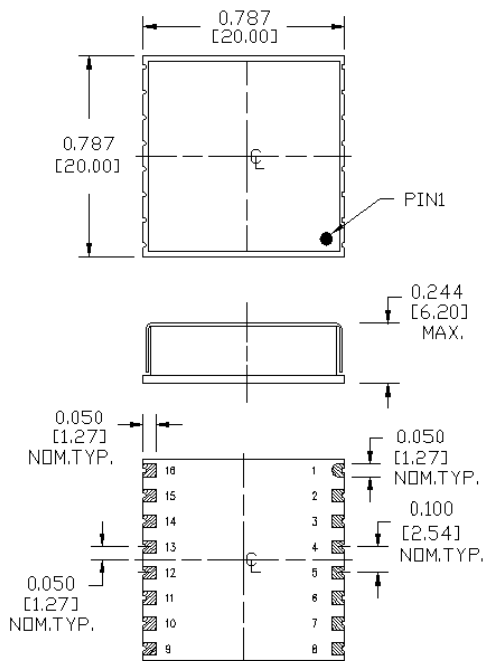
Description

The TCXO3410 employs low noise / low jitter temperature compensation techniques with A sine wave output and less than 1.00 ppm temperature stability up to 1 GHz frequency operation. The device contains an internal voltage regulator for improved isolation from power supply ripple and added stability.

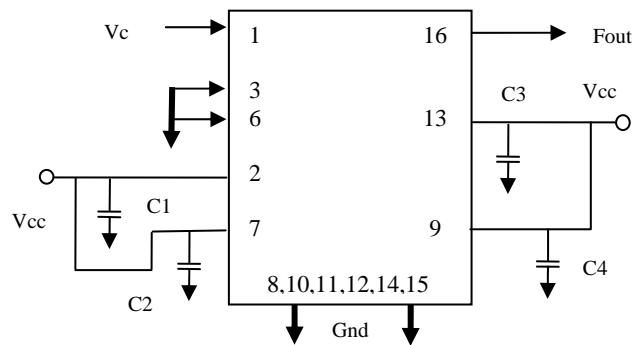
Picture of Part



Physical Dimensions



Pin Connections



C1,C2,C3,& C4 = .1 uF

Pin #	Description	Pin #	Description
1	Vc	16	Fout
2	Vcc	15	Gnd
3	Gnd	14	Gnd
4	Do Not Connect	13	Vcc
5	Do Not Connect	12	Gnd
6	Gnd	11	Gnd
7	Vcc	10	Gnd
8	Gnd	9	Vcc

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Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		200		1000	MHz	
Sine wave Output ONLY	Fout > 500 MHz		50 ohm Load	6	8		dBm	
	Fout < 500 MHz		50 ohm Load	8	10		dBm	
	Sub-harmonics				-42	-36	dBc	
					50		ohm	
Power supply								
Voltage		Vcc		3.150	3.300	3.450	V	
Current consumption		Icc	50 ohm load		72	85	mA	
Frequency control*								
Control voltage range		Vc		0.0	1.2 1.8	3.0	V	Nominal Frequency between 1.2 and 1.8 volts on Vcontrol
Absolute Pull Range (APR)			Extra Pull above all variation	+/- 5			ppm	
Vc Input Impedance Modulation BW			Zin = 50 ohms + 1000 pF // 15K	10			Hz	3 dB bandwidth
Frequency stability								
vs. temperature			-40°C to +85°C, ref 25°C	-1.000		+1.000	ppm	
Tolerance at 25C				-0.1		+0.1	ppm	With 1.2 to 1.8 volts on Vcontrol
Vs. supply				-0.1		+0.1	ppm/volt	Per one volt change in supply
SSB Phase noise @ 1.0 GHz typical			10 Hz				dBc/Hz	
			100 Hz		-92			
			1 kHz		-121			
			10 kHz		-141			
			100 kHz		-147			
Phase Jitter (12K to 20MHz)					0.20	0.35	ps	
Aging	Per year		After 30 days operation	-1.0		+1.0	ppm	
	10 years			-3.0		+3.0	ppm	
Environmental, mechanical conditions.								
Operating temperature range		-40°C to +85°C maximum range available for +/- 1.00 ppm stability over temperature						
Storage temperature range		-55°C to +105°C						
Thermal Shock		MIL-STD-883, Method 1011, Condition A						
Mechanical shock		MIL-STD-202, Method 213, Condition E						
Vibration		MIL-STD-883, Method 2007, Condition A						
Soldering		260C for 10 seconds maximum						

Ordering Information

TCXO3410-XXX.XXXXXX-W

1. Field "XXX.XXXXXX" is the Output Frequency to six decimals in MHz
2. Field "W" is Operating Temperature Range and Freq. Stability :
 - a. "0" for 0 °C to +70°C and +/- 1.000 ppm
 - b. "1" for -40°C to +85°C and +/- 1.000 ppm

Part Number Example

TCXO3410-622.080000-1

622.080000 MHz operating frequency to six decimal places

-40°C to 85°C with +/- 1.000 ppm