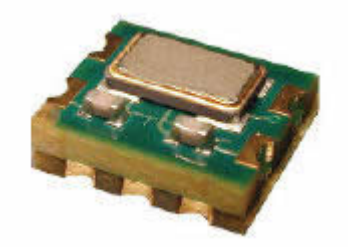
TCXO3600
Total Analog Compensation Low Noise TCXO

Features

Frequency Range 20 to 100 MHz
Rugged 9.3 mm x 7.6 mm x 3.8 mm
Analog compensation for low noise
2.8 V, 3.3 V, 5.0 V supply options
CMOS or clipped sine output

Picture of Part



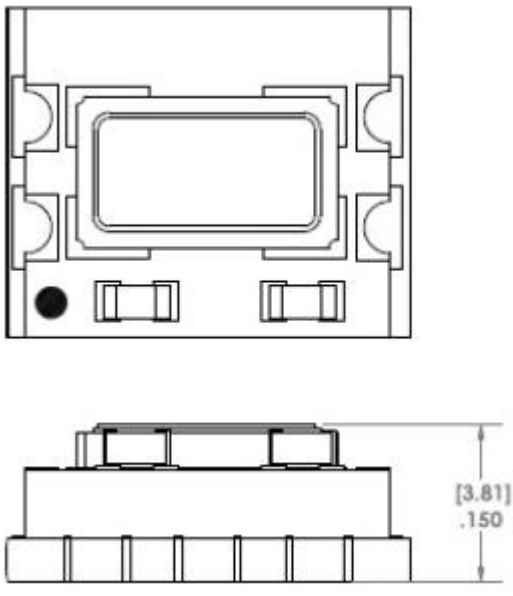
Applications

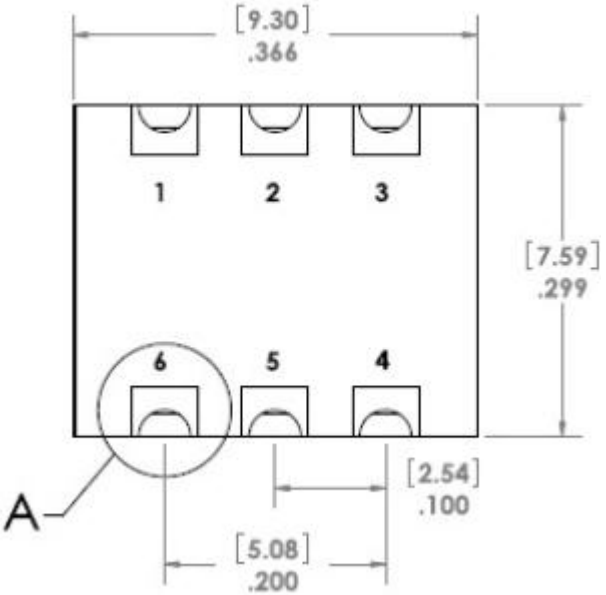
Land Mobile and portable radio
GPS Telemetry
Test and Measurement
Wireless Communications
Wi-Max Basestations
Telecom Switching

Description

The TCXO3600 represents a 100% analog compensation design whereby the compensating voltage Is a continuous function. This allows for the Frequency versus temperature curve of the oscillator to behave Without sudden frequency jumps that degrade phase noise in the customer application.

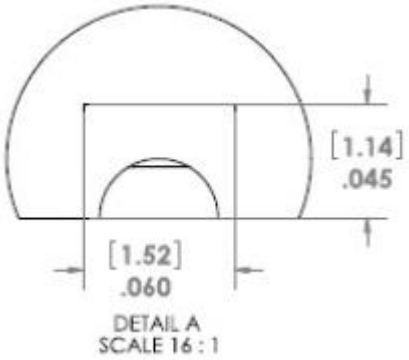
Physical Dimensions & Pin Connections





Dimensions in [mm] inches

Type C		
Code	Height "H"	Pin Length "L"
0	3.81 mm	NA



Pin Connections	
1	Voltage Control (Vc)
2	Reference Voltage (Vref)
3	Ground (Case)
4	Output
5	Enable
6	Supply Voltage (Vs)

Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		20		100	MHz	
HCMOS compatible option	Load					15	pF	
	H - level voltage	V_H		0.9*Vcc			V	
	L - level voltage	V_L				0.1*Vcc	V	
	Rise & Fall time					5	ns	
	Duty cycle			40	50	60	%	
Clipped Sine-wave option	Level	L			1.0		pk-pk	
	Load	RL			10		Kohm	
	Load	CL			10		pF	
Power supply								
Voltage		Vcc		3.135	3.300	3.465	V	2.8 and 5.0 V supply options
Current consumption		Icc				35	mA	Dependent on frequency
Frequency control*								
Control voltage range Input Impedance (10K ohm)		Vc		0.3	1.65	3.000	V	0.28, 1.4, 2.5 for 2.8V supply 0.5, 2.5, 4.5 for 5.0V supply
Tuning range				+/- 5.0			ppm	
Reference voltage Output				2.3 3.8	2.4 4.0	2.5 4.1	V	For Vsupply >= 2.7V For Vsupply>= 4.5 V
Frequency stability								
vs. temperature			-40°C to +85°C, ref 25°C	-2.0		+2.0	ppm	
vs. 5% change in supply voltage			ref Vcc typ.				ppb	
SSB Phase noise For 20 MHz Frequency			10 Hz			-90	dBc/Hz	for 20 MHz operating frequency
			100 Hz			-120		
			1 kHz			-140		
			10 kHz			-145		
			100 kHz			-150		
Phase Jitter (12K to 20 MHz)						1.0	pS	
Aging	Per Year		Projected aging after 30 days operation			+/- 1.0	ppm	
	15 Years					+/- 4.0	ppm	
Environmental, mechanical conditions.								
Operating temperature range			**-40°C to +85°C maximum range available that is standard**					
Storage temperature range			**-55°C to +105°C**					

Ordering information

TCXO3600- XXX.XXXXXX-W-Y-Z

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 +/- 0.280 ppm
   b. " 1 " for -20°C to +70°C and +/- 0.500 ppm
   c. " 2 " for -40°C to +85°C and +/- 1.000 ppm
   d. " 3 " for -40°C to +85°C and +/- 2.000 ppm
3. Field " X " is clipped sine wave output versus square wave output
   a. " 0 " for clipped sine wave output
   b. " 1 " for square wave output
4. Field " Y " is power supply option
   a " 0 " is 2.8V DC supply
   b. " 1 " is 3.3V DC supply
   c. " 2 " is 5.0V DC supply
5. Field " Z " is choice between Fixed TCXO and VCTCXO
   a " 0 " is clock TCXO (no tuning adjust)
   b. " 1 " is for VCTCXO

Part Number Example

TCXO3600-100.000000-2-1-1-0

100.000000 MHz Operating Frequency

Operating Temperature of -40°C to +85°C
+/-1.000 ppm Frequency Stability

CMOS Output

3.3V supply

Clock TCXO (no adjust)