MTCXO1004
VHF TCXOs

Features

Frequency Range 0.625 to 800 MHz
HCMOS or 50 ohm sine wave
Best in class Frequency Stability over temperature as low as +/- 50 ppb
Rugged package design

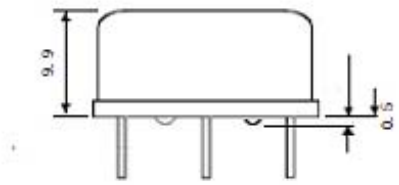
Typical Applications

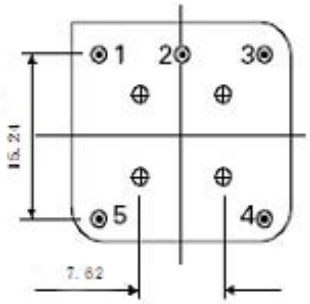
Cellular base stations
Land mobile radio
Wireless local loop
Telecommunication Networks
Satellite Communications
Automatic Meter Reading
Test and Measurement

Description

The MTCXO1004 represents a special class of electronic compensated designs. With its' proprietary compensation hardware and software techniques, the MTCXO1004 can achieve sub 0.1 ppm stabilities over a wide operating temperature range with very high operating frequencies to 800 MHz.

Physical Dimensions & Pin Connections





PIN NO	CONNECTION
#1	+VS
#2	OUTPUT
#3	GND
#4	VC
#5	NC

Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		0.625		800	MHz	
HCMOS compatible option	Load					15	pF	Available to 160 MHz
	H - level voltage	V_H					V	
	L - level voltage	V_L					V	
	Rise & Fall time					10	ns	
	Duty cycle			45	50	55	%	
50 ohm Sine-wave option	Level	dBm		0			dBm	
	Load	RL			50		ohm	
	Harmonics				-20		dBc	
Power supply								
Voltage		Vcc		4.75	5.0	5.25	V	3.3 and 12 volt option available
Current consumption		Icc			10	25	mA	Max. current a function Of frequency
Frequency control*								
Control voltage range		Vc		0.5	1.5	2.5	V	Positive tuning slope
Tuning range					+/- 8.0		ppm	
Reference voltage Output								
Frequency stability								
vs. temperature			-40°C to +85°C, ref 25°C	-100		+100	ppb	
vs. 5% change in supply voltage			ref Vcc typ.	-50		+50	ppb	
25C calibration tolerance				-300		+300	ppb	
SSB Phase noise For 10 MHz HCMOS Typical			10 Hz				dBc/Hz	for 10 MHz 50 ohm sine wave Typical
			100 Hz					
			1 kHz		-135			
			10 kHz					
			100 kHz					
Allan variance			1 s				e-12	
Aging			Projected aging after 30 days operation					
	Per Year					+/-0.5	ppm	
Environmental, mechanical conditions.								
Operating temperature range			**-40°C to +85°C maximum range available that is standard**					
Storage temperature range			**-50°C to +90°C**					
Humidity								
Mechanical shock								
Sine Vibration								
Random Vibration								

Ordering Information

MTCXO1004-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 -20°C to +70°C and +/- 50 ppb
    b. " 1 " for -40°C to +85°C and +/- 100 ppb
    c. " 2 " for -20°C to +70°C and +/- 280 ppb
    d. " 3 " for -40°C to +85°C and +/- 50 ppb
3. Field " Y " is Power Supply Option :
    a. " 0 " for 3.3 V +/- 5%
    b. " 1 " for 5.0 V +/- 5%
    c. " 2 " for 12.0 V +/- 5%
4. Field " Z " is clipped sine wave output versus square wave output
    a. " 0 " for 50 ohm sine wave output
    b. " 1 " for square wave output (to 160 MHz operating frequency)

Part Number Example

MTCXO1004-10.000000-1-1-0

10.000000 MHz Operating Frequency

Operating Temperature of -40°C to +85°C

+/- 100 ppb Frequency Stability

5.0 volt supply

50 ohm sine wave output