MTCXO1006
VHF TCXOs

Features

Frequency Range 1.25 to 77.76 MHz
CMOS or 50 ohm sine wave
Best in class Frequency Stability over temperature as low as +/- 50 ppb
Std.Frequencies (MHz): 10, 12, 12.8, 13, 15, 16.32, 16.384, 18.432, 19.2, 19.44, 20, 25, 30.72, 32.768, 38.88, 40, 77.76

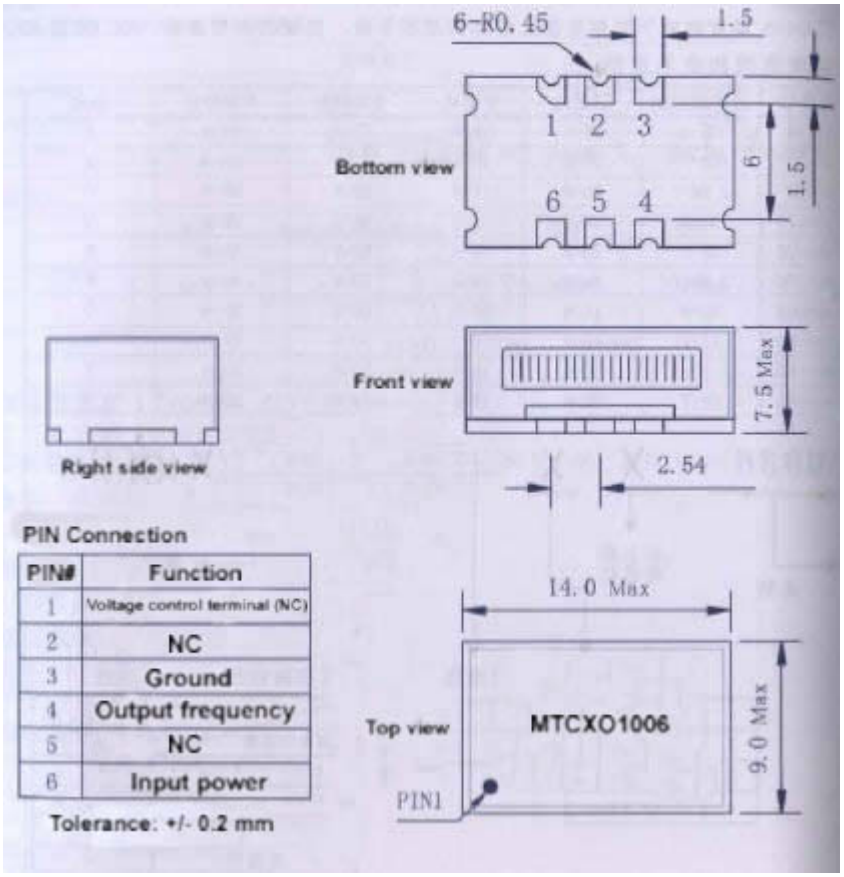
Typical Applications

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

Description

The MTCXO1006 represents a special class of electronic compensated designs. With its' proprietary compensation hardware and software techniques, the MTCXO1006 can achieve sub 0.1 ppm stabilities over a wide operating temperature range with very high operating frequencies.

Physical Dimensions & Pin Connections



PIN#	Function
1	Voltage control terminal (NC)
2	NC
3	Ground
4	Output frequency
5	NC
6	Input power

Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		1.250		77.76	MHz	
HCMOS compatible option	Load					15	pF	
	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	5	7	dBm	
	Load	RL			50		ohm	
	Harmonics				-30		dBc	
	Spurious				-70		dBc	
Power supply								
Voltage		Vcc		4.75	5.0	5.25	V	3.3 volt option available
Current consumption		Icc		5		30	mA	Max. current a function Of frequency
Frequency control*								
Control voltage range		Vc		0.5 0. 0	2.5 1.65	4.5 3.3	V	For 5.0V supply For 3.3V supply
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	
							ppb	
SSB Phase noise For 10 MHz 50 ohm sine Typical			10 Hz		-95		dBc/Hz	for 10 MHz 50 ohm sine wave Typical
			100 Hz		-120			
			1 kHz		-138			
			10 kHz		-145			
			100 kHz		-148			
Allan variance			1 s		3.0		e-10	
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			**-55°C to +85°C**					
Humidity								
Mechanical shock								
Sine Vibration								
Random Vibration								

Ordering Information

MTCXO1006-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
    e. " 4 " for -20°C to +70°C and +/- 100 ppb
    f. " 5 " for -40°C to +85°C and +/- 280 ppb
3. Field " Y " is Power Supply Option :
    a. " 0 " for 3.3 V +/- 5%
    b. " 1 " for 5.0 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 CMOS output

Part Number Example

MTCXO1006-10.000000-1-1-0

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