

TCXO3700

Highly Stable and Reliable Miniature TCXO

Features

Frequency Range 6.4 to 52 MHz
Rugged 7.0 mm x 5.0 mm x 2.3 mm
Less than +/- 4.6 ppm over 20 years
Overall stability from all causes
As low as +/- 0.15 ppm stability
From 0°C to 50°C

Typical Applications

Harsh environment Land Mobile Radio
Portable Equipment in SATCOM, and GPS

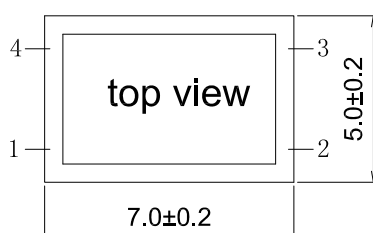
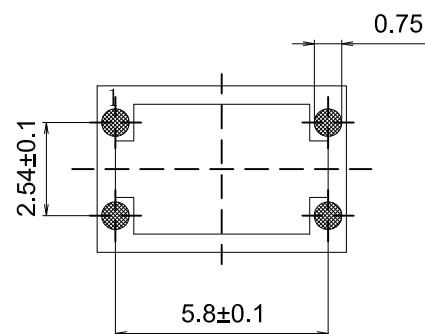
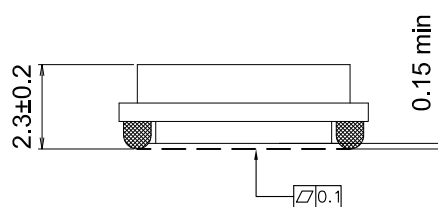
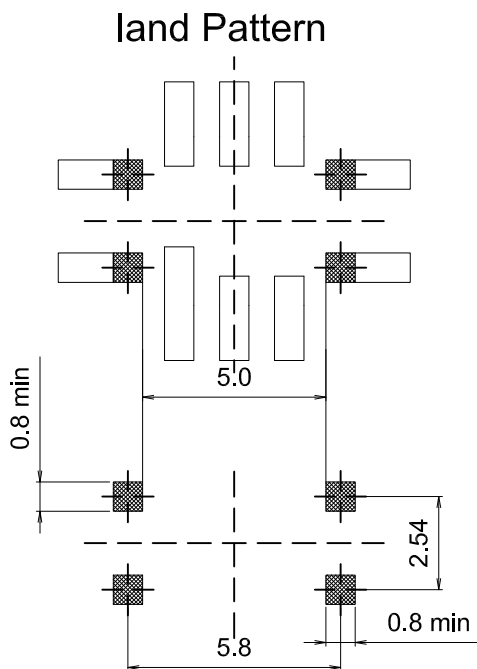
Picture of Part



Description

The TCXO3700 represents a product family specifically designed for Superior stability and reliability over a 20 year operating life. Very specific resonator Designs have been optimized over many years of production to deliver a highly capable Process flow especially at standard frequencies 10, 12.8, 16.384, 19.44, 20, and 20.48 MHz.

Physical Dimensions & Pin Connections



Pin Connections	
1	Voltage Control (Vc)
2	Ground (Case)
3	RF Output
4	Supply Voltage Input (Vs)

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Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		6.4		52.0	MHz	
HCMOS compatible option	Load					15	pF	
	H - level voltage	V_H		3.0			V	For 3.3V supply
	L - level voltage	V_L				0.3	V	For 3.3V supply
	Rise / Fall Time					5	ns	10% to 90%
	Duty cycle			40	50	60	%	
	Output Load			13.5	15	16.5	pF	
Power supply								
Voltage		V_{cc}		3.15	3.3	3.45	V	
Current consumption		I_{cc}				6	mA	With 3.3V supply
Frequency control*								
Control voltage range (Pin 1)		V_c		0.300	1.650	3.000	V	With 3.3V supply
Tuning range			Positive Slope	+/- 5.0	+/- 14.0	+/- 20.0	ppm	Stratum 3 Tuning Sensitivity
Pin 1 Input Impedance				10K			ohms	
Frequency stability								
vs. temperature			-40°C to +85°C, ref 25°C	-0.8		+0.8	ppm	Overall stability includes
Overall Frequency Tolerance				-4.6		+4.6	ppm	Variation with room, temp, load,
Over 20 years								Supply, and 20 year aging
SSB Phase noise For 10 MHz HCMOS			10 Hz			-90	dBc/Hz	for 10 MHz HCMOS
			100 Hz			-120		
			1 kHz			-140		
			10 kHz			-145		
			100 kHz			-150		
Aging			Projected aging after 30 days operation	-2.5		+2.5	ppm	
20 Years								
Frequency Changes versus voltage, load, room tolerance after reflow								
Frequency vs. 5% Supply Change				-0.2		+0.2	ppm	
Frequency vs. 5% Load Change				-0.1		+0.1	ppm	
Frequency Tolerance at 25C after reflow				-1.0		+1.0	ppm	
Operating temperature range			-40°C to +85°C maximum range available that is standard					
Storage temperature range			-55°C to +105°C					

Ordering information

TCXO3700- XX.XXXXXX-W-Y

1. Field " XX.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 +50°C and +/- 0.150 ppm
 - b. " 1 " for -20°C to +70°C and +/- 0.280 ppm
 - c. " 2 " for -20°C to +70°C and +/- 0.800 ppm
 - d. " 3 " for -40°C to +85°C and +/- 0.280 ppm
 - e. " 4 " for -40°C to +85°C and +/- 0.800 ppm
3. Field " Y " is for option of clock versus VCTCXO
 - a. " 0 " clock TCXO
 - b. " 1 " VCTCXO

Part Number Example

TCXO3700-10.000000-3-1

10.000000 MHz Operating Frequency

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

+/- 0.280 ppm Frequency Stability

VCTCXO with +/- 5 ppm minimum

electronic adjust

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Product Performance Graphs

