

TCXO3500

Low G-sensitivity Low Noise TCXO

Features

- Frequency Range 10 to 100 MHz
- Rugged 9.5 mm x 14.4 mm x 5.9 mm
- Low Phase Jitter (0.2 ps typ. At 77.76 MHz)
- Low Phase Noise up to 100 MHz
- Less than +/- 4.6 ppm over 20 years
- Overall stability from all causes

Typical Applications

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

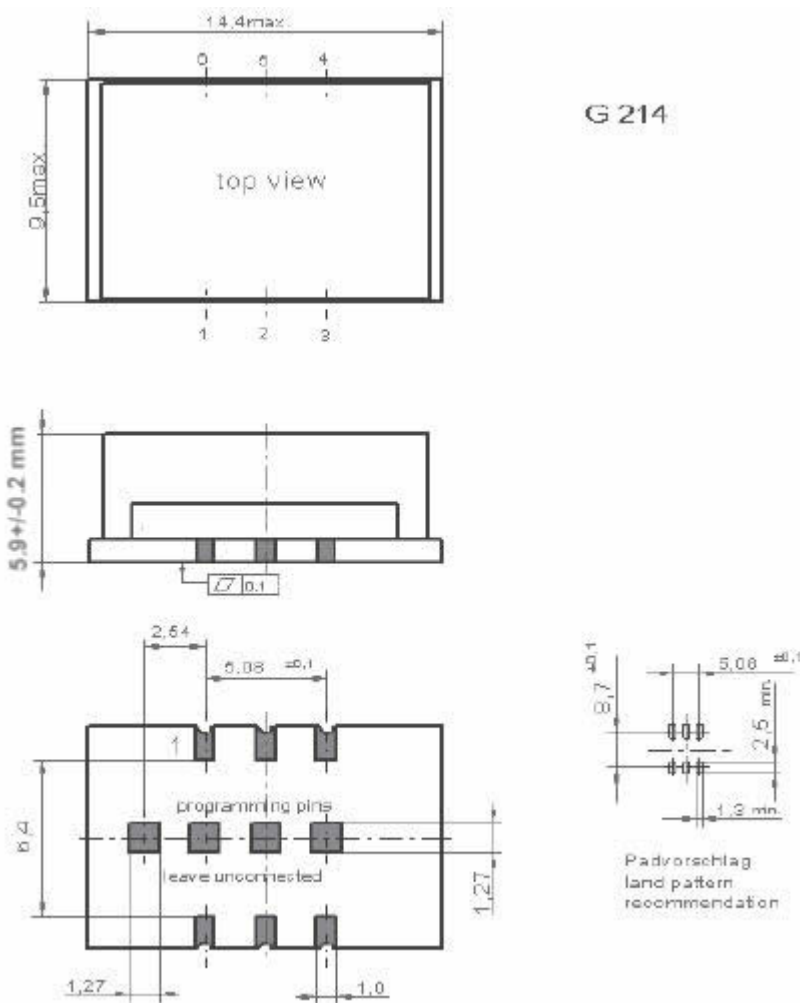
Description

The TCXO3500 represents a product family specifically designed for Low g-sensitivity, high shock resistance, high vibration environments, and low phase noise especially between 50 and 100 MHz operating frequencies.

Picture of Part



Physical Dimensions & Pin Connections



Pin Connections	
1	N/C / Control Voltage Input (Vc)
2	N/C
3	Ground (Case)
4	RF-Output
5	NC
6	Supply Voltage Input (Vs)

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Specification

TCXO Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		10		100	MHz	
HCMOS compatible option	Load					15	pF	
	H - level voltage	V_H		3.0 4.5			V	For 3.3V supply For 5.0V supply
	L - level voltage	V_L				0.3 0.5	V	For 3.3V supply For 5.0V 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	5.0V supply option
Current consumption		I_{CC}				30 40	mA mA	With 3.3V supply With 5.0V supply
Frequency control*								
Control voltage range (Pin 1)		V_c		0.300 0.500	1.650 2.500	3.000 4.500	V V	With 3.3V supply With 5.0V supply
Tuning range			Positive Slope	+/- 5.0	+/- 12.0	+/- 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 77.76 MHz HCMOS						-95	-80	dBc/Hz for 77.76 MHz HCMOS
						-123	-110	
						-142	-135	
						-154	-145	
						-155	-150	
Phase Jitter			12K to 20 MHz		0.2		ps	
Aging			Projected aging after 30 days operation					ppm
		20 Years		-2.5		+2.5		
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						
Mechanical shock		Per MIL-STD 202G , Method 213B, Condition F (1000 G's for 0.5 milli-second duration)						
Random Vibration		Per MIL-STD 202G , Method 214A, Condition II-D						

Ordering information

TCXO3500- XXX.XXXXXX-W-Y

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 +/- 0.280 ppm
 - b. " 1 " for -20°C to +70°C and +/- 0.800 ppm
 - c. " 2 " for -40°C to +85°C and +/- 0.800 ppm
3. Field " Y " is for 3.3V or 5.0V supply
 - a. " 0 " for 3.3V supply
 - b. " 1 " for 5.0V supply

Part Number Example

TCXO3500-100.000000-2-0

100.000000 MHz Operating Frequency

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

+/- 0.800 ppm Frequency Stability

3.3V supply

Product Performance Graphs

Typical Phase Noise @ 77.76 MHz HCMOS

Typical phase noise @ 77,76MHz
static conditions

