

Features

Power (0.15 W typ at 25 °C)
 20 MHz operating frequency
 Fast Warm-up (45 seconds)
 Ultra low phase noise
 -115 dBc/Hz at 10 Hz
 -145 dBc/Hz at 100 Hz
 -155 dBc/Hz at 1KHz
 -165 dBc/Hz at 10KHz

Picture of Part



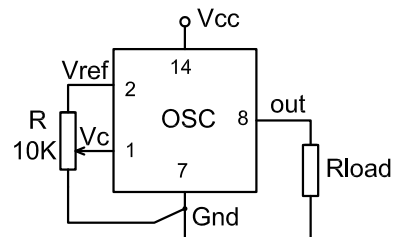
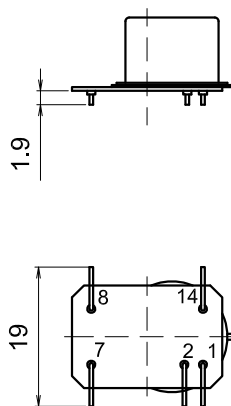
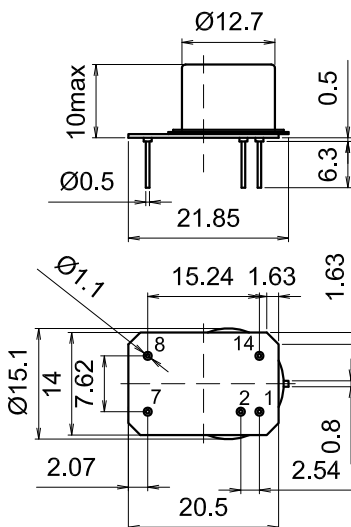
Typical Applications

Portable and low Power
 Low Noise Test Equipment, and synthesizers
 Microwave Communications Systems

Description

The GSOX1201-20MHz-A ovenized oscillator design technology offers a directly heated Crystal process which allows for very fast warm up without degrading Low phase noise and frequency stability required of traditional OCXO products.

Mechanical Drawing and PIN Connections



Pin	Signal
1	Electrical tuning
2	Reference voltage
7	GND
8	RF Out
14	+V Supply

Specification

OCXO Specification	Sym.	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	f_0			20		MHz	
Sine-wave option	Level	L	5	7	11	dBm	
	Load	R_L	45	50	55	Ohm	
	Harmonics				-25	dBc	
Subharmonics				-75		dBc	
Power supply							
Voltage	V_{cc}		3.150	3.300	3.450	V	
Power consumption		Warm-up state		0.7	1.0	W	
		Steady state, +25°C		0.15	0.23	W	
Warm-up time***	t_{up}	To within +1- 1e-7, at +25°C			90	sec	ref. to frequency after 30 min.
Frequency control*							
Control voltage range	V_C		0		2.8	V	Positive tuning slope
Tuning range			+/- 1.0			ppm	
Reference voltage Output	V_{ref}		2.7	2.8	2.9	V	
Frequency stability							
vs. temperature		-40°C to +85°C, ref 25°C	-50.0		+50.0	ppb	
vs. 5% change in supply voltage		ref V_{cc} typ.	-5		+5	ppb	
SSB Phase noise at 20MHz		10 Hz		-115	-112	dBc/Hz	for 20 MHz operational freq.
		100 kHz		-145	-142		
		1 kHz		-155	-152		
		10 kHz		-165	-162		
Allan variance		1 s		30		e-12	
Aging	Per Day	Projected aging after 30 days operation			+/- 1.0	ppb	For 20 MHz third Overtone SC-cut
	Per Year				+/- 100	ppb	
Environmental, mechanical conditions.							
Operating temperature range	-40°C to +85°C maximum range available that is standard						
Storage temperature range	-60°C to +90°C						
Humidity	Non-condensing 95%						
Mechanical shock	Per MIL-STD 202 30G half sine pulse, 11 ms						
Vibration	Per MIL-STD 202 10G swept sine 10 to 2000 Hz						
Soldering conditions	+260°C for 10 seconds						

*** The unit will be within +1- 0.1 ppm of the steady-state frequency that is reached after 30 minutes continuous operation

Ordering Information

GSOX1201-20MHz-A