



### Features and Benefits

Wide operating temperature range from -40° C to +85° C  
High frequency stability vs. temperature  
Low 1<sup>st</sup> year aging at ±30ppb

### Typical Applications

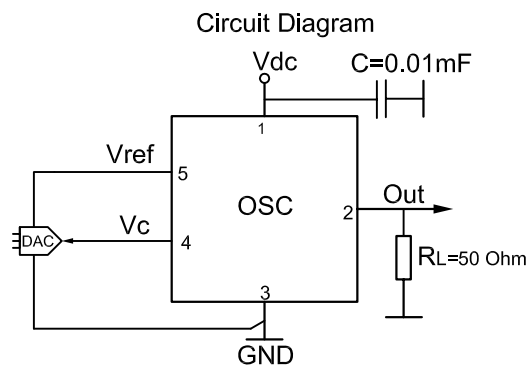
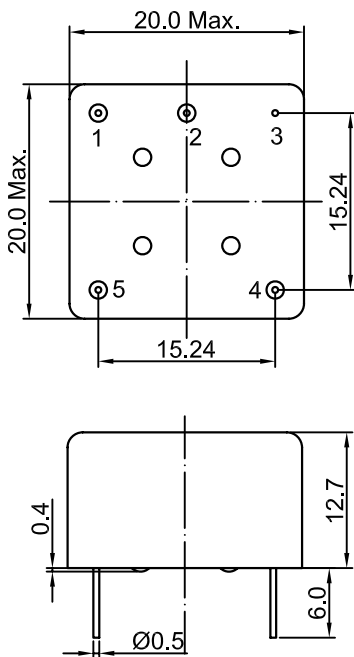
3G, CDMA  
Networking  
Instrumentation

### Description

OCXO2020ZS2 series offers wide temperature operation from -40°C to +85°C with outstanding frequency stability and low 1<sup>st</sup> year aging at ±30ppb.

### Mechanical Drawing & Pin Connections

Drawing No: MD140082-2



#### Pin Function

Pin	Signal
1	Vdc (Supply Voltage)
2	RF Output
3	GND
4	Vc (Control Voltage)
5	Vref

Unit in mm

1mm = 0.0394 inches



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	F <sub>nom</sub>		8.1920		20.0000	MHz	
Standard Frequencies			10.00, 12.80, 13.00, 16.384, 20.00			MHz	
Output waveform		>300 mV (rms)	Sine wave				
Output load				50		Ω	±10%
Reference voltage output	V <sub>ref</sub>			+5.0		V	
<b>Power Supply</b>							
Voltage	V <sub>cc</sub>			12.0		V	±5%
Current Consumption		Steady State at +25° C		<150		mA	
Warm-up Time:	T <sub>up</sub>	<±2 x 10 <sup>-8</sup> at +25° C		<3		min	Within spec
<b>Frequency Control</b>							
Frequency pulling range				≥±4 x 10 <sup>-7</sup>			Positive slope
Vcontrol via external voltage	V <sub>c</sub>		+0		+5.0	V	
Vcontrol via external potentiometer				20		kΩ	
<b>Frequency Stability</b>							
Versus Operating Temperature (tighter stability on request)		-40° C to +85° C		≤±3.0		ppb	
		-20° C to +70° C		≤±2.0			
		-10° C to +60° C		≤±1.0			
Versus supply voltage change				≤±0.5		ppb	±5%
Versus load change				≤±0.5		ppb	±5%
Versus aging after 30 days of operation		1 <sup>st</sup> year		≤±30.0		ppb	
Phase noise @10 MHz carrier frequency & Vdc = 12V		10 Hz		-130		dBc/Hz	
		100 Hz		-150			
		1 KHz		-157			
		10 KHz		-159			
Short-Term Stability		Allan deviation per 1s		5		E-12	
<b>Environmental Conditions</b>							
Operating temperature range	-10° C to +60° C, -20° C to + 70° C or -40° C to 85° C						
Storage temperature range	-55° C to +85° C						
Vibration	Acceleration: 5 g; 10 Hz up to 200 Hz and down to 10 Hz, all 3 axes, 4.5 h/axis						
Shock	75 g; half-sine; 3 ms, (3 shocks each, 6 directions)						