Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077
TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

OCXO2013Z1
Through Hole HCMOS OCXO

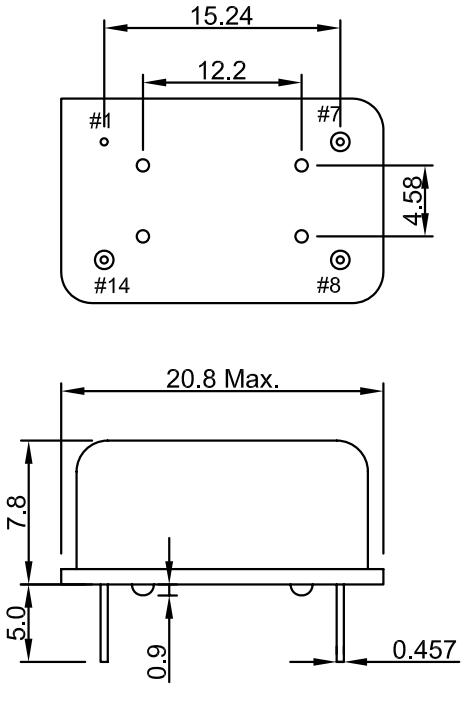
Features and Benefits
Wide operating temperature range from -40° C to +85° C
Short warm-up time of <30s
Small case size (DIL14/4 pin)

Typical Applications
GPS
Base Station
Synchronization
Satellite Modem

Description
OCXO2013Z1 series offers wide temperature operation from -40℃ to +85℃ with outstanding frequency stability and low phase noise performance all with very fast warm-up of less than 30s.

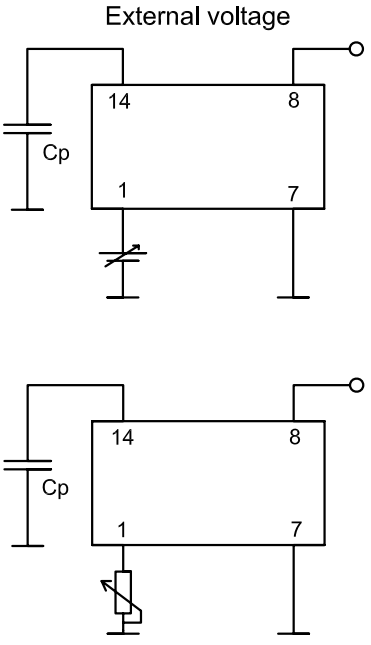
Mechanical Drawing & Pin Connections

Drawing No: MD150026-2



Pin Function

#1	Vc
#7	GND
#8	RF Output
#14	Vdc



External potentionmeter

Unit: mm
1mm=0.0394inch

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	F_{nom}		10.0000		52.0000	MHz	
Standard Frequencies			10.000, 12.80, 16.000, 16.384, 19.44, 20.00, 40.00			MHz	
Output waveform		V_{OH} > 0.9 Vdc V_{OL} < 0.1 Vdc	HCMOS				
Output load				10		LS-TTL	±5%
Rise / Fall time				<5		ns	
Power Supply							
Voltage	V_{cc}			3.30		V	±0.2V
Current Consumption		Steady State at +25° C		121		mA	
Warm-up Time:	T_{up}	at +25° C		<30		sec	Within spec
Frequency Control							
Frequency pulling range				≥±3		ppm	Positive slope
Vcontrol via external voltage	V_c		+0.5		+5.0	V	
Vcontrol via external potentiometer				10		kΩ	
Frequency Stability							
Versus Operating Temperature (tighter stability on request)		-40° C to +85° C		≤±0.200		ppm	
		-20° C to +70° C		≤±0.150			
		-10° C to +60° C		≤±0.075			
Versus supply voltage change				≤±0.100		ppm	±0.2V
Versus load change				≤±0.010		ppm	±10%
Versus aging after 30 days of operation		1st year		≤±0.300		ppm	
Versus long term aging		10 years		≤±2.500		ppm	
Phase noise @10 MHz carrier frequency		10 Hz		-100		dBc/Hz	
		100 Hz		-130			
		1 KHz		-140			
		10 KHz		-145			
Short-Term Stability		Allan deviation over 0.1~30s		5		E-10	
Environmental Conditions							
Operating temperature range	-10° C to +60° C, -20° C to + 70°C or -40° C to 85° C						
Storage temperature range	-65° C to +125° C						
Vibration	Acceleration: 10 g; 10 Hz up to 2000 Hz and down to 10 Hz, ; all 3 axes, 4.5h / axes						
Shock	2000 g; half-sine; 3 ms, (3 shocks each, 6 directions)						