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

OCXO2020C-ET-10MHz-A-V
Extended Temperature OCXO

Features and Benefits

Less than ±5 ppb over extended temperature -55°C to +85°C
Less than 10.3mm package height
Less than ±0.2 ppb per day aging
Less than -165 dBc/Hz @ 10 KHz

Typical Applications

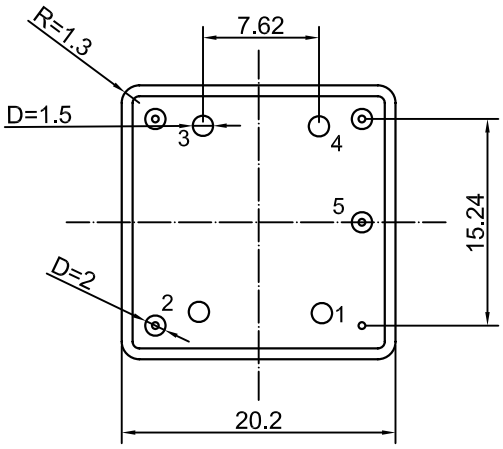
Harsh and low temperature environment
Microwave communication systems
Portable and mobile devices
Instrument and clock reference
Radar systems

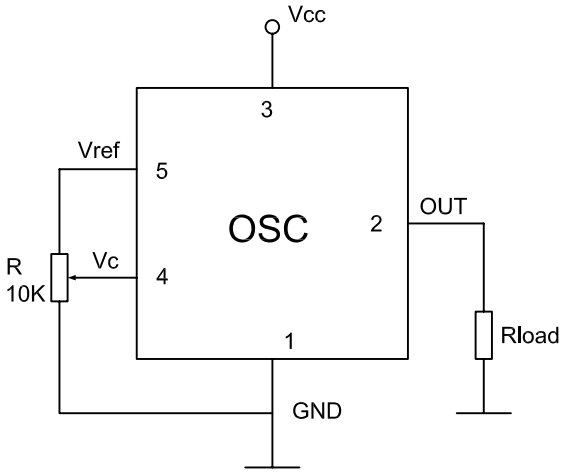
Description

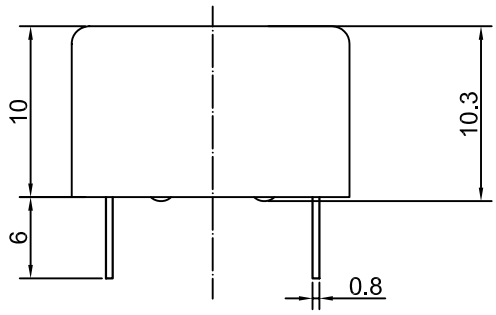
OCXO2020C-ET-10MHz-A-V offers extended temperature operating with high stability, low noise and long term aging reliability with low height package makes this device ideal for portable and mobile devices under low temperature environment.

Mechanical Drawing & Pin Connections

Drawing No: **MD140069-8**







Pin Connections

Pin	Signal
1	GND
2	RF OUTPUT
3	Supply Voltage
4	Control Voltage
5	Reference voltage

Unit in mm
1mm = 0.0394 inches

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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	F_0			10.000000		MHz	
RF Output							
Output Waveform				Sine Wave			
Output Level	L		+7			dBm	
Load	R_L		45	50	55	Ohm	
Harmonics					-30	dBc	
Power Supply							
Voltage	V_{CC}		4.75	5.00	5.25	V	
Warm-up Current		V_{CC} = 5.0V	550		700	mA	
Continuous Current		At +25°C, V_{CC} = 5.0V, still air			240	mA	
Warm-up Time	t_{up}	To $\Delta f/f=1e^{-7}$, at +25°C, ref. to 30 min.			180	sec	
Frequency Control							
Input Resistance	R_{in}			11		kΩ	
Control Voltage Range	V_C		0		4.3	V	
Preset Control Voltage	V_{C0}	Disconnected V_C pin	1.7	2.1	2.5	V	
Slope				Positive			
Pull Range	$(f_L-f)/f$	V_C = 0V			-0.4	ppm	
	$(f-f)/f$	$V_C = V_{C0}$		0		ppm	
	$(f_H-f)/f$	$V_C = V_{ref}$	0.4			ppm	
Reference Voltage	V_{ref}		4.0	4.2	4.3	V	
Out. Resistance of V_{ref}				91		Ohm	
Frequency Stability							
Initial Tolerance	$(f-f_0)/f_0$	At +25°C, $V_C = V_{C0}$	-0.1		+0.1	ppm	
Vs. Temperature		Ref +25°C			±5	ppb	
Vs Supply Voltage		Ref V_{CC} typ.			±1	ppb	
Aging per day		After 30 days of continuous operation			±0.2	ppb	
Aging per year					±0.02	ppm	
SSB Phase Noise		@ 1 Hz			-100	dBc/Hz	
		@ 10 Hz	-125		-120		
		@ 100 Hz	-145		-140		
		@ 1 KHz	-165		-155		
		@ 10 KHz			-165		
		@ 100 KHz			-168		
Environmental Conditions							
Operating temperature range	-55°C to +85°C						
Storage temperature range	-60°C to +90°C						
Power Voltage	-0.5 to +6.0V						
Control Voltage	-1.0 to +6.0V						
Humidity	Hermetically sealed						
Mechanical Shock	Per MIL-STD-202, 30G, 11ms						
Vibration	Per MIL-STD-202, 10G to 500Hz						
Soldering Conditions	Hand solder only – not reflow compatible +260°C 10s (on pins)						
Washing Conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage						