



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

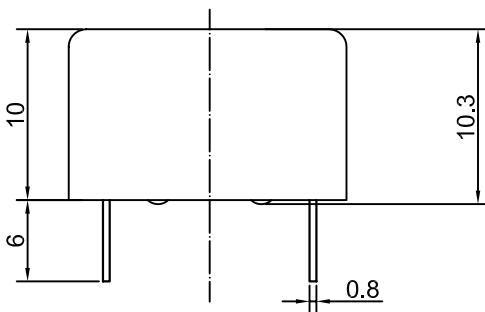
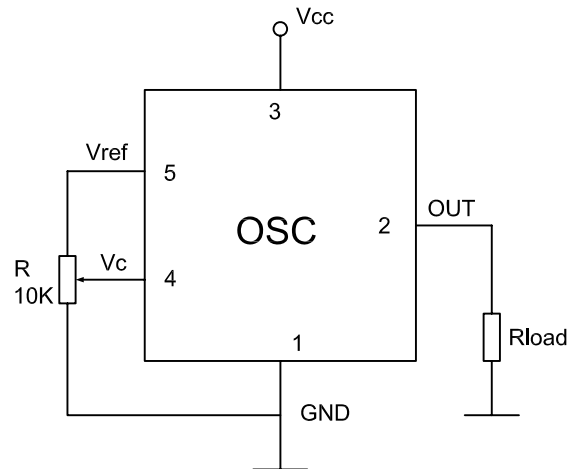
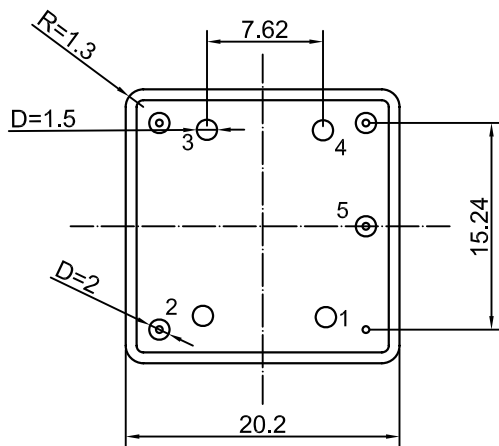
- Harsh and low temperature environment
- Microwave communication systems
- Portable and mobile devices
- Instrument and clock reference
- Radar systems

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



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 Δf/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						