



### Features and Benefits

High stability:  $\pm 3$ ppb over  $-40$  to  $+85^{\circ}\text{C}$   
 Low aging rate:  $\pm 0.2$ ppb/day,  $\pm 0.02$ ppm/year  
 Low Allan variance value – up to  $3 \times 10^{-12}/1\text{s}$

### Typical Applications

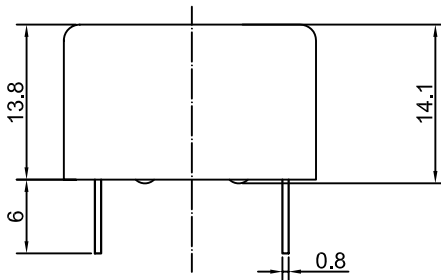
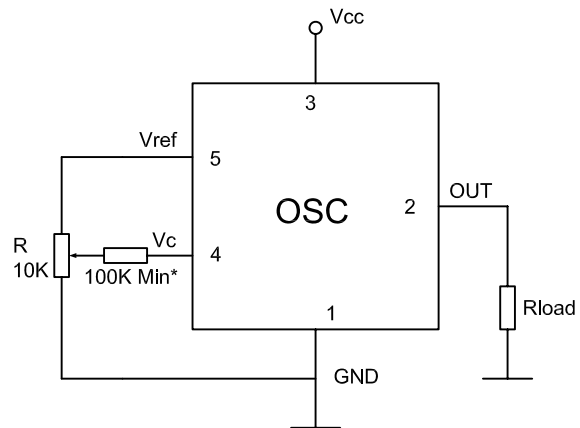
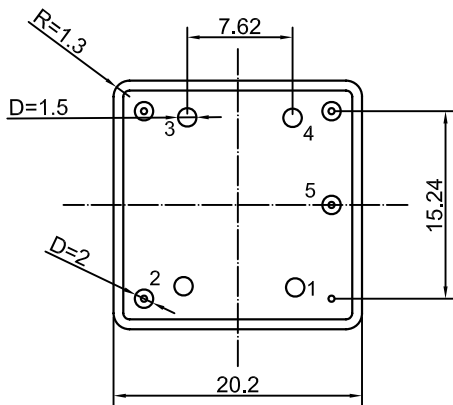
GPS Disciplined Mobile Frequency Standards  
 Portable Instrumentation  
 Mobile Communication Systems  
 Battery Supply Beacons

### 8yM/d7cb

OCXO2020C-10MHz-A-V series offers high frequency stability, low long-term aging and low phase noise, all in a compact package to suit the different communication needs.

### Mechanical Drawing & Pin Connections

Drawing No: MD1(00\* - 1,



#### 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.		
Operational Frequency	F <sub>nom</sub>			10		MHz	
<b>RF Output</b>							
Signal Waveform			HCMOS				
Load	R <sub>L</sub>		10kohm//15pF				
H-Level Voltage	V <sub>H</sub>		3.7			V	
L- Level Voltage	V <sub>L</sub>				0.4	V	
Duty Cycle			45		55	%	
Rise/Fall time					10	ns	
<b>Power Supply</b>							
Reference Voltage VREF Output			4		4.3	V	
Supply Voltage	V <sub>s</sub>		4.75	5	5.25	V	
Warm-up Time	T <sub>up</sub>	At +25°C to Δf/f=1e-7	30		60	s	ref to freq after 15 min of operation
		At +25°C to Δf/f=1e-8		120		s	
Power Consumption		Steady state, +25°C			180	mW	
		Warm-up			1200	mW	
<b>Frequency Adjustment Range</b>							
Electronic Frequency Control (EFC)		Compliance with 10 years aging	±0.3			ppm	
EFC voltage	V <sub>c</sub>		0		4.3	V	
EFC Slope			positive				
<b>Frequency Stability</b>							
Versus Operating Temperature Range				±3		ppb	
Initial Tolerance @+25°C		V <sub>c</sub> @ VREF / 2	±0.01	±0.1		ppm	
Versus supply voltage	V <sub>s</sub>	Ref Vcc typ		±0.2		ppb	
G-Sensitivity		Worst direction	±0.3	±1.0		ppb/G	
Retrace		24h work after 24h off			±10	ppb	
Aging Per Day		After 30 days of operation			±0.2	ppb	
Aging 1 <sup>st</sup> Year					±0.02	ppm	
Allan Variance		1s	3		30	e-12	
SSB Phase noise		1Hz			-110	dBc	
		10Hz			-140	dBc	
		100Hz			-155	dBc	
		1kHz			-160	dBc	
		10kHz			-170	dBc	
		100kHz			-170	dBc	
<b>Environmental, Mechanical Conditions</b>							
Operating temperature range	-40°C to 85°C						
Storage temperature range	-60°C to 85°C						
Power voltage	-0.5V to Vcc+20%						
Control voltage	-0.5V to 6V						
Humidity	Hermetically sealed						
Mechanical shock	Per MIL-STD-202,30G half sine pulse,11mS						
Vibration	Per MIL-STD-202, 10G swept sine 10 to 2000Hz						
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						