



Features and Benefits

- Sine-wave RF output
- Custom low Noise 52 MHz output signal
- Low aging at +/-1.5 ppb/day and +/-0.15 ppm/year
- Operating temperature -40°C to +85°C

Typical Applications

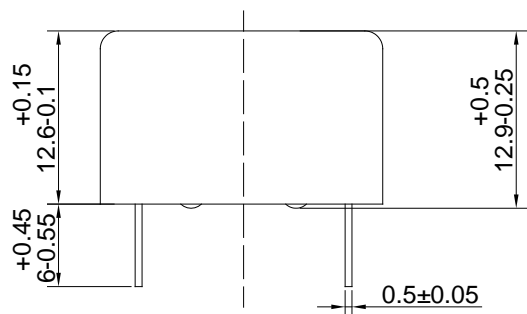
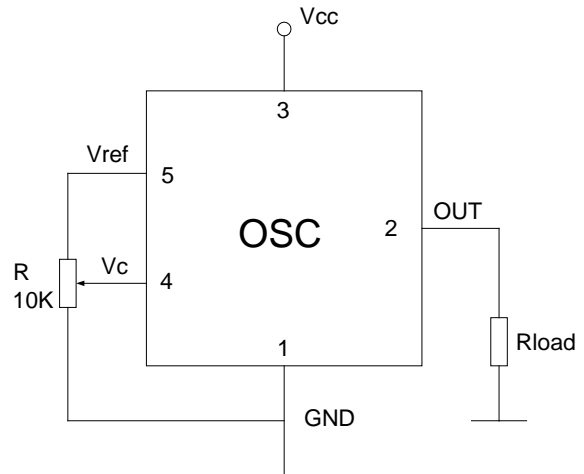
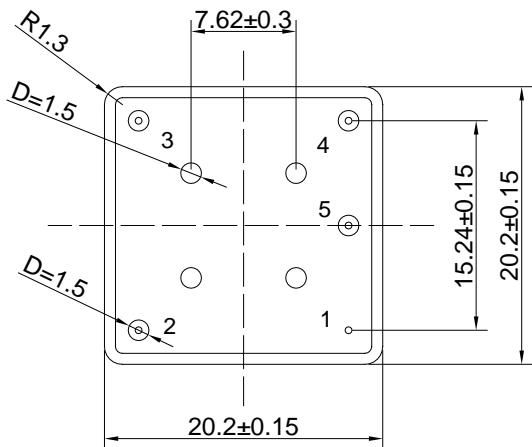
- Cellular Base Stations
- Instrumentation
- Microwave Application
- Stratum 3E clock systems.

Description

Miniature, high performance OCXO design platform that have 52MHz output frequency without using circuit multiplication from the crystal frequency utilized.

Mechanical Drawing & Pin Connections

Drawing No: MD140069-5



Pin Connections

Pin	Signal
1	GND
2	RF Out
3	+V Supply
4	Electrical tuning
5	Reference voltage

Unit : mm
 1mm=0.0394inch



Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	f ₀		52.000000			MHz	
Initial Tolerance		At +25°C, V _c =V _{c0}	-0.1		+0.1	ppm	
RF Output							
Waveform :			Sine-wave				
Level	L		+3			dBm	
Load	R _L		45	50	55	Ohm	
Harmonics Level					-30	dBc	
Spurious					-70	dBc	
Frequency control							
Input resistance	R _{in}			11		kOhm	
Voltage Range	V _c		0		4.2	V	
Factory set control voltage	V _{c0}	Disconnected V _c pin	1.55	2.1	2.65	V	
Slope			positive				
Frequency Turning Range	(f _L -f)/f	V _c =0 V			-0.5	ppm	
	(f-f)/f	V _c =V _{c0}	0			ppm	
	(f _H -f)/f	V _c =V _{ref}	0.5			ppm	
Reference Voltage	V _{ref}		4.1	4.2	4.3	V	
Out. Resistance of V _{ref}				91		Ohm	
Power Supply							
Voltage	V _{cc}		4.75	5	5.25	V	
Warm-up Current		V _{cc} =5.0V	550		1000	mA	
Continuous Current		At +25°C, V _{cc} =5.0V			400	mA	
Warm-up Time:	T _{up}	to Δf/f = 1e ⁻⁷ at +25°C			180	s	
Frequency Stability							
Vs. Temperature		Ref. +25°C			+/-10	ppb	
Vs. Supply Voltage		Ref. V _{cc} typ.			+/-2	ppb	
vs. Load		Ref. R _L typ.			+/-2	ppb	
Aging	per day	after 30days of operation			+/-1.5	ppb	
	per year				+/-0.15	ppm	
SSB Phase noise		10 Hz			-90	dBc/Hz	
		100 Hz			-120		
		1 KHz			-140		
		10 KHz			-160		
		100 KHz			-160		
Environmental Conditions							
Storage temperature range	-60°C to 90°C						
Operating temperature range	-40°C to 85°C						
Humidity	Hermetically sealed						
Mechanical Shock	MIL-STD-202, 30G half sine pulse, 11 ms						
Vibration	MIL-STD-202, 5G to 500Hz						
Washing Conditions	Washing with water or alcohol based detergent allowed only with final enough drying stage						
Soldering Conditions	Hand solder only – not reflow compatible 260°C 10s(on pins)						