

**Features and Benefits**

Frequency 100.000000MHz  
 +7dBm min. low noise sine-wave output  
 +/-50ppb from -40°C to +85°C  
 -165dBc/Hz @10KHz offset  
 25.4x22.0x10.8mm

**Typical Applications**

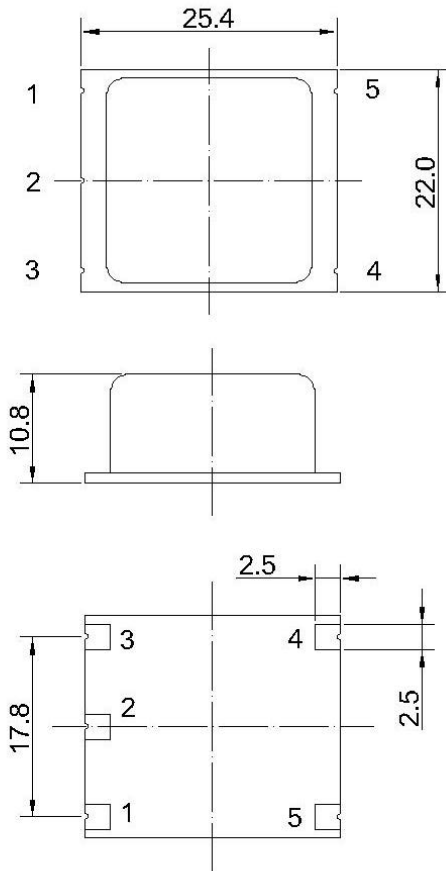
Ref. for Microwave comm. System  
 Signal Analyzer Reference for internal synthesizers  
 SATCOM Systems

**Description**

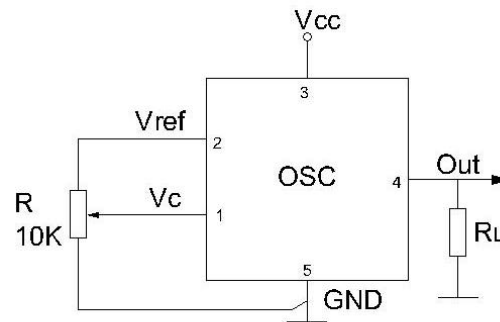
The OCXO2522MC family offers a specially designed 100MHz third overtone SC-cut crystal impedance matched to the oscillator and amplifier circuits to deliver consistent world class phase noise on all production shipments.

**Mechanical Drawing & Pin Connections**

Drawing No: MD140086-1



Unit : mm



## Specification

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	$F_{nom}$			100.000000		MHz	
<b>RF Output</b>							
Wave form				Sine wave			
Level	L		+7			dBm	
Load	$R_L$		45	50	55	Ohm	
Harmonics Level					-40	dBc	
<b>Frequency control</b>							
Input Resistance	$R_{in}$			11		Kohm	
Voltage Range	$V_c$		0		4.2	V	Positive
Factory Set Control Voltage	$V_{cc}$	Disconnect Vc pin	1.55	2.1	2.65	V	
Frequency turning range	$(f_L - f)/f$	VC = 0V			-1.0	ppm	+
	$(f - f)/f$	VC = $V_{cc}$		0		ppm	
	$(f_H - f)/f$	VC = $V_{ref}$	1.0			ppm	+
Reference voltage	$V_{ref}$		4.1	4.2	4.3	V	
Output resistance of $V_{ref}$				91		Ohm	
<b>Power Supply</b>							
Voltage	$V_{cc}$		4.75	5.0	5.25	V	
Current Consumption		Warm-up	550		700	mA	$V_{cc}=5V@25^\circ C$
		Steady-state			240	mA	$V_{cc}=5V@25^\circ C$
Warm-up Time:	$T_{up}$	to $\Delta f/f = 1e-7$ at $+25^\circ C$			180	sec	
<b>Frequency Stability</b>							
Vs. Temperature		Ref. $25^\circ C$			+/-50	ppb	
Tolerance At $25^\circ C$		@ $25^\circ C$			+/-200.0	ppb	
Vs. Supply Voltage		Ref Vcc typ.			+/-4	ppb	
Aging	per day	after 30days of operation			+/-3	ppb	
	first year				+/-0.3	ppm	
Phase Noise		10 Hz		-95		dBc/Hz	
		100 Hz		-125			
		1K Hz		-155			
		10 KHz		-165			
		100KHz		-168			
<b>Environmental Conditions</b>							
Power voltage		-0.5 to 6.0 V					
Control voltage		-1.0 to 6.0 V					
Operating temperature range		-40°C to +85°C					
Storage temperature range		-60°C to 90°C					
Humidity		Non-condensing 95%					
Mechanical Shock		Per MIL-STD-202, 30G, 11ms					
Vibration		Per MIL-STD-202, sin 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					