



### Features and Benefits

Better than  $\pm 250$ ppb from  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
With respect to  $+25^{\circ}\text{C}$  ref. frequency  
28.8MHz low CMOS output  
3V supply; 7 mA maximum

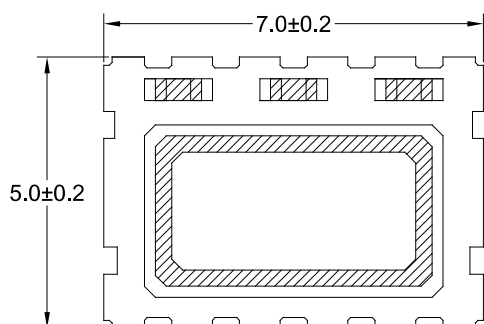
### Typical Applications

Mobile SATCOM  
Mobile Radio  
Harsh Environments  
Femto cell

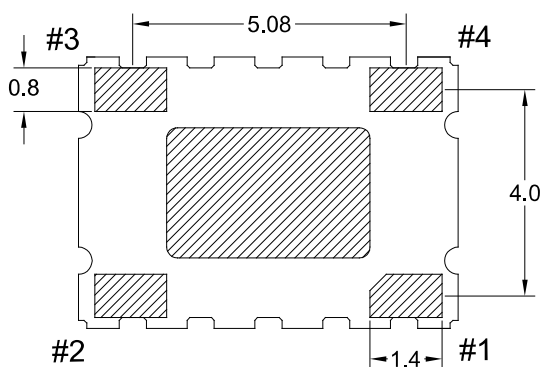
### Mechanical Drawing & Pin Connections

Drawing No:MD13023

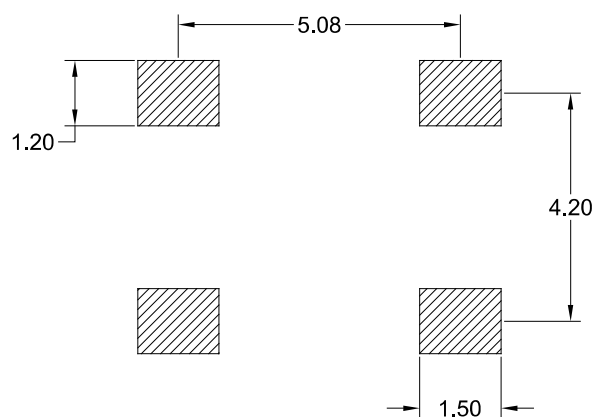
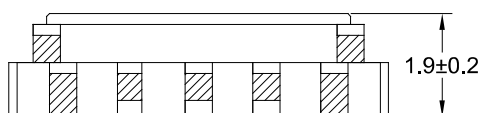
[ TOP VIEW ]



[ BOTTOM VIEW ]



[ SIDE VIEW ]



Recommended Soldering Pattern

PIN	FUNCTION
#1	Vcon
#2	GND
#3	OUTPUT
#4	VDD

Unit: mm  
1mm=0.03937inch

**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	f <sub>0</sub>			28.8		MHz	
RF Output							
Output Wave Form			CMOS				
Output Voltage Level High			0.9Vcc			V	
Output Voltage Level Low					0.1Vcc	V	
Load				15		pF	
Duty Cycle			45	50	55	%	
Rise and Fall Times		CMOS logic output at 10% to 90%			8.0	ns	
Start Time					2.0	msec	
Power Supply							
Voltage	V <sub>cc</sub>		2.7	3.0	3.3	V	
Current Consumption		@Max. Vcc			7.0	mA	
Frequency Control							
Control Voltage			0.5		2.5	V	
Pulling Range			-10		-5	ppm	
			5		10	ppm	
VAFC input Impedence			100			Kohm	
Linearity					10	%	
Frequency Stability							
Frequency Tolerance		@25°C after IR reflow			±2	ppm	
VS. Temperature		-40°C to +85°C			±250	ppb	With respect to 25°C Ref frequency @25°C
VS. Supply Voltage		5% change			±0.1	ppm	
VS. Load		5% change			±0.05	ppm	
Aging		In first year			±1.00	ppm	
Phase Noise							
@ 28.8 MHz		@10Hz			-83	dBc/Hz	
		@100Hz			-110		
		@1 KHz			-133		
		@10 KHz			-146		
		@100 KHz			-150		
Environmental Conditions							
Parameter	Reference Std.		Test Condition				
Operating temperature range	-40°C to +85°C						
Storage temperature range	-55°C to +125°C						
Vibration Test	MIL-STD-883 2007 Condition A JESD22-B103 Condition 1		10~2000Hz, 1.52mm, 20G, each axis for 4 hrs				
Thermal Shock	MIL-STD-883 1010 Condition B JESD22-A104 Condition B		-55 °C ,125 °C soak time is 10 mins, with total 200 cycles				
Mechanical Shock	MIL-STD-883 2002 Condition B JESD22-B104 Condition B		1500G, half-sine, 0.5ms, each axis for 3 times.				