



Features and Benefits

- Less than +/- 0.5ppm over operating temperature
- 145dBc/Hz @ 1 KHz offset typical
- Less than 5mA max.
- +/- 8ppm electronic frequency adjust

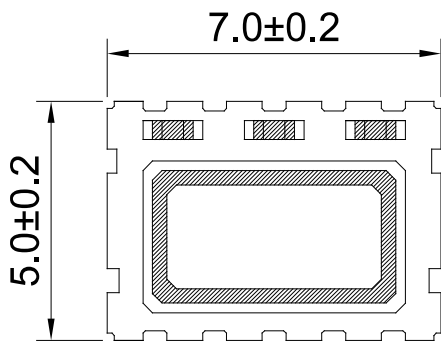
Typical Applications

Optimized clock reference design for Beidou SATCOM

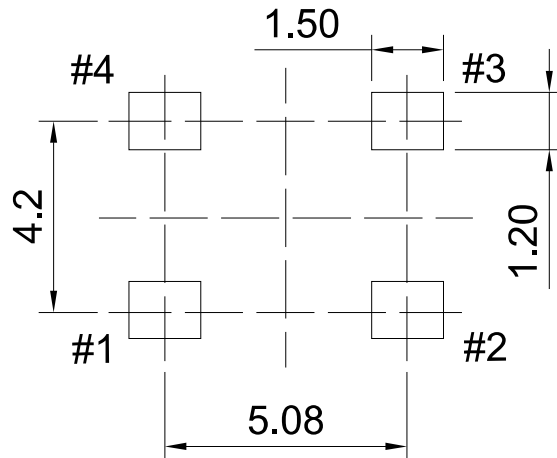
Mechanical Drawing & Pin Connections

Drawing No: MD150004-4

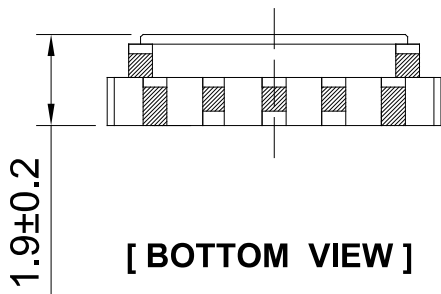
[TOP VIEW]



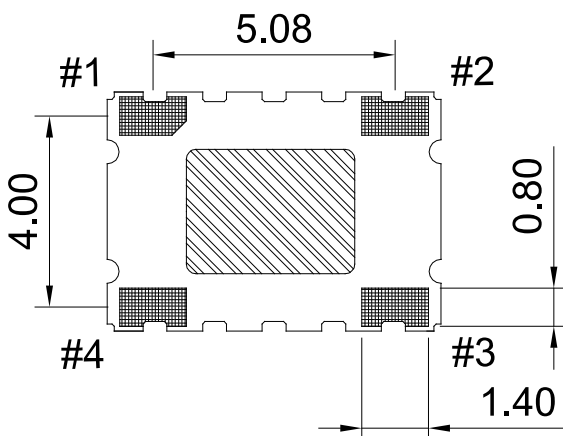
[Solder pattern]



[SIDE VIEW]



[BOTTOM VIEW]



PIN	FUNCTION
#1	Vc (EFC)
#2	GND
#3	Output
#4	Vdc +3.3V

Unit : mm
1mm=0.039 inch

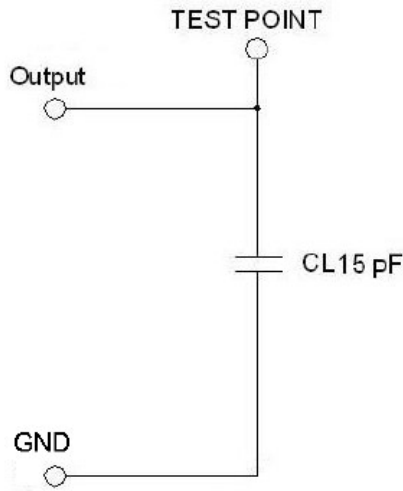


Specifications

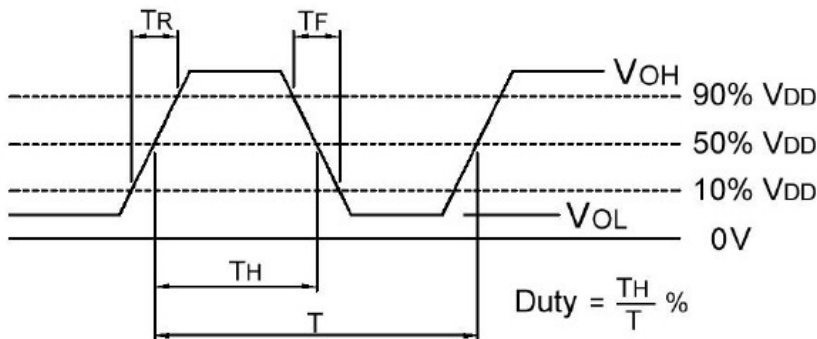
Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency				16.32		MHz	
Nominal Frequency Tolerance		At +25°C, before IR reflow	-0.5		+0.5	ppm	
		At +25°C, after IR reflow	-2.0		+2.0		
RF Output							
Waveform :			CMOS				
Output Voltage Level High			2.97			V	
Output Voltage Level Low					0.33	V	
Output Load Capacitance		Operating range			15	pF	
Duty Cycle		Measured at 50% VDD trigger level	45	50	55	%	
Rise and fall times		CMOS logic output at 10% to 90%			8.0	ns	
Start Time					2.0	ms	
Frequency control							
Control Voltage Range	V _{con}		0.3	1.65	3.0	V	
Linearity					10	%	
VAFC Input Impedance			100			KOhm	
Pulling Range		V _{con} =0.3V			-8	ppm	
		V _{con} =3.0V	+8			ppm	
Power Supply							
Supply Voltage	V _{cc}		2.97	3.3	3.63	V	
Supply Current		At max. supply voltage			5.0	mA	
Frequency Stability							
Vs. Temperature		Ref. to the midpoint between minimum and maximum frequency value. @V _c =1.65V From -40°C to +85°C			+/-0.5	ppm	
Vs. Supply Voltage		Supply voltage varied at +/- 5% at 25°C			+/-0.1	ppm	
vs. Load		+/-5% load change			+/-0.1	ppm	
Aging	First year				+/-1.0	ppm	
Phase noise		10Hz			-90	dBc/Hz	
		100 Hz			-110		
		1 KHz			-145		
		10 KHz			-150		
Environmental Conditions							
Storage temperature range		-55°C to +125°C					
Operating temperature range		-40°C to 85°C					
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.					
Vibration		MIL-STD-883 2007 Condition A; JESD22-B103 Condition 1, 10~2000Hz, 1.52mm, 20G, each axis for 4 hrs					



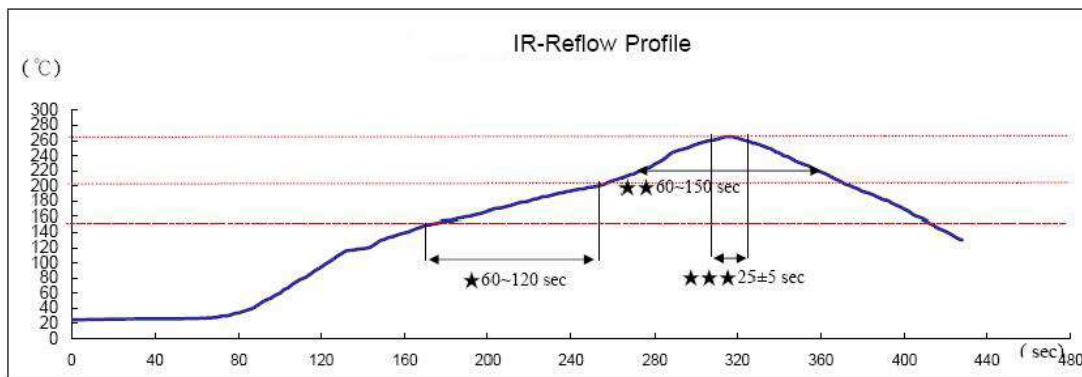
Test Circuit



Output Waveform



Recommended IR Reflow Profile



Reference Standard: JEDEC-STD 020

Test conditions: ★Pre-heating : 150°C to 200°C, 60~120secs.

★★Heating : 217°C, 60~150sec.

★★★Peak temperature : 260±5°C, 25±5sec.