



### Features and Benefits

- Frequency range: 15-700MHz
- Output waveform: HCSL
- Supply voltage: 1.8/2.5V/3.3V
- Current: 90mA Max.
- Frequency stability vs. temperature:  $\pm 50$ PPM
- Operating temperature:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- Size: 3.2x2.5x1mm
- Package type: Surface Mount



### Typical Applications

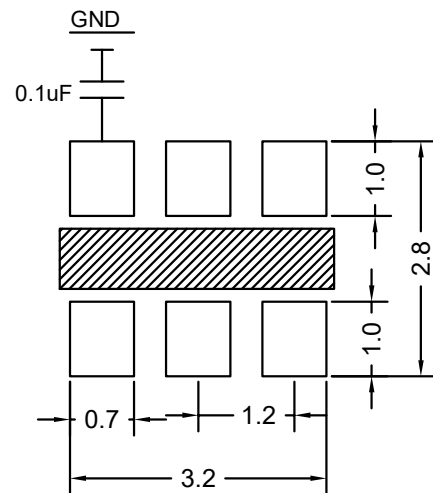
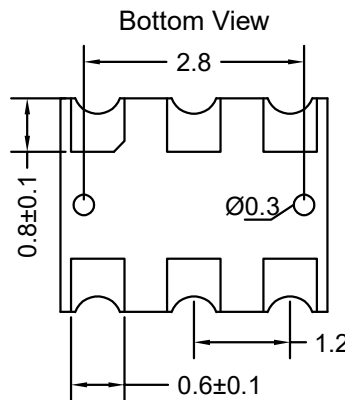
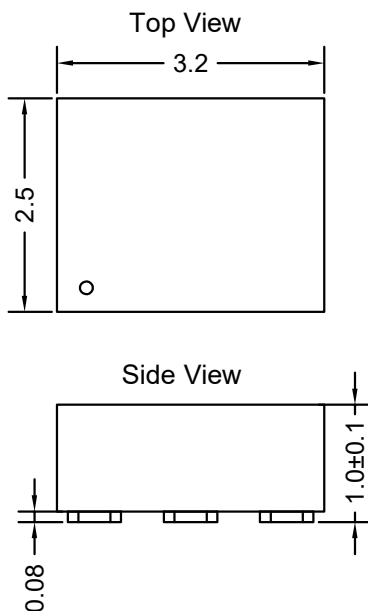
- Defense Systems
- Mobile Radar Station
- Gigabit Ethernet, SONET/SDH
- Server & Storage, Data Center
- SD/HD Video, FPGA Clock Generation

### Description

VCXO3225BM-LJ\_HCSL is the high frequency and low jitter differential VCXO. It can be widely used in digital circuits.

### Mechanical Drawing & Pin Connections

**Drawing No:** MD240085-1



PIN	Function
#1	Control Voltage
#2	OE
#3	GND
#4	OUTPUT
#5	OUTPUT_N
#6	Supply Voltage

Unit in mm  
1mm = 0.0394 inches

Please keep the middle area blank.  
Do not layout any lines in this space.  
To ensure optimal oscillator performance, place a by-pass capacitor of 0.1µF as close to the part as possible between Vcc and GND pads



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	f <sub>o</sub>		15		700	MHz	
<b>RF Output</b>							
Output Waveform			HCSL				
Output Level		Output high	0.66		1.15	V	
		Output low	0		0.15	V	
Duty Cycle			45		55	%	
Rise & Fall Time					0.35	ns	
Startup Time					8	ms	
Tri-State (Input to Pin2)		Enable	0.7 V <sub>cc</sub>			V	
		Disable			0.3 V <sub>cc</sub>	V	
<b>Power Supply</b>							
Voltage	V <sub>cc</sub>	±10%		1.8/2.5/ 3.3		V	See ordering section
Supply Current		V <sub>cc</sub> =3.3V			90	mA	
		V <sub>cc</sub> =2.5V			80	mA	
		V <sub>cc</sub> =1.8V			70	mA	
Stand by Current		V <sub>cc</sub> =3.3V			90	mA	
		V <sub>cc</sub> =2.5V			80	mA	
		V <sub>cc</sub> =1.8V			70	mA	
<b>Control Voltage</b>							
Control Voltage		V <sub>cc</sub> =3.3V	0.3	1.65	3	V	
		V <sub>cc</sub> =2.5V	0.25	1.25	2.25	V	
		V <sub>cc</sub> =1.8V	0.18	0.9	1.62	V	
Pulling Range			±50		±250	ppm	
Linearity					±10	%	
Modulation Bandwidth			5		20	KHz	
VC Input Impedance			5			Mohm	
<b>Frequency Stability</b>							
Versus Temperature					±25	ppm	See ordering section
Phase Noise At V <sub>cc</sub> =3.3V, 805.664MHz Frequency		1KHz		-107		dBc/Hz	
		10KHz		-117			
		100KHz		-125			
		1MHz		-135			
RMS Phase Jitter		Integrated 12KHz-20MHz	150		300	fs	
Period Jitter					50	ps	
<b>Environmental Conditions</b>							
Operating temperature range		-40°C to +85°C (See ordering section)					



### Ordering Information

VCXO3225BM-LJ_HCSL	-	xMHz-	01	02	03
Group			Code		

For example, VCXO3225BM-LJ-HCSL-155.52MHz-111 denotes the XO has the following specifications:

Frequency: 155.52MHz  
 Temperature Range: -10°C to +60°C  
 Stability Over Temperature: ±20 ppm  
 Supply Voltage: 1.8V

01	Temperature Range
Code	Specification
1	-10°C to +60°C
2	-20°C to +70°C
3	-40°C to +85°C

02	Frequency Stability
Code	Specification
1	±20 ppm
2	±25 ppm
3	±50 ppm
4	±100 ppm

03	Supply Voltage
Code	Specification
1	1.8 V
2	2.5 V
3	3.3 V

### Frequency Stability vs. Temperature

Temperature Range [°C]	Frequency Stability			
	±20 ppm	±25 ppm	±50 ppm	±100 ppm
-10°C to +60°C	Available	Available	Available	Available
-20°C to +70°C	Conditional	Available	Available	Available
-40°C to +85°C	Not Available	Conditional	Available	Available

Inclusive of calibration @ 25°C, operating temperature range, input Voltage variation, load variation, aging (1st year), shock and vibration