Dynamic Engineers Inc.
2550 Gray Falls Dr., Suite#128, Houston, TX, 77077
TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

VCXO5300S-CMOS-xMHz
CMOS 1.5 to 170MHz
Voltage-Controlled Crystal Oscillator

Features and Benefits

Frequency Range 1.5 MHz to 170 MHz
5.0 mm x 3.2 mm 6 pads ceramic SMD package
±25 ppm total stability over -20°C to +70°C available
Available ±25 ppm total stability over -40°C to +85°C (depends on operating frequency)
CMOS output
3.3V supply
Tri-state enable / disable
Available tight symmetry (45 to 55%)

Typical Applications

WiMax/WLAN
xDSL/VoIP, cable modem Set-top Box, HDTV

Description

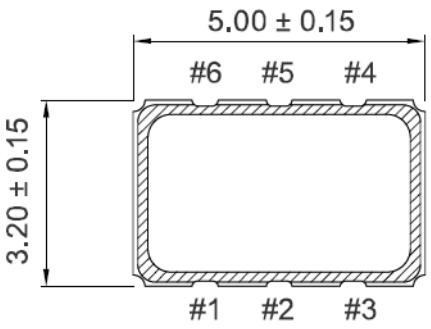
A new series of voltage controlled oscillators with the latest tight symmetry topologies.

Mechanical Drawing & Pin Connections

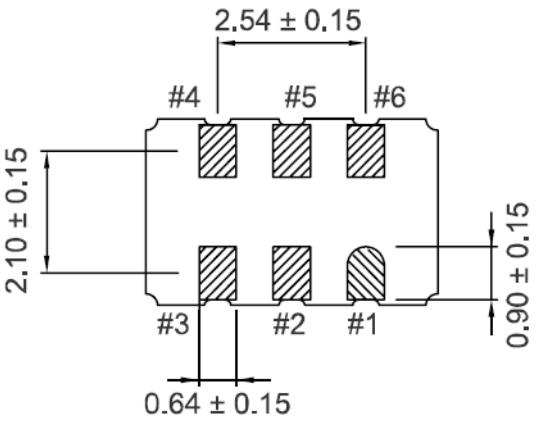
Drawing No: **MD160025-1**

Unit: mm
1mm = 0.0394inch

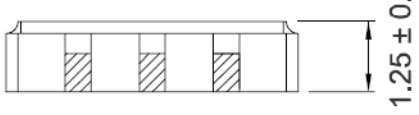
[TOP VIEW]



[BOTTOM VIEW]



[SIDE VIEW]



Pin#	Function
1	Vcon
2	Tri-State
3	GND
4	Output
5	NC
6	VDD

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Specifications

General Specifications			
Output Logic Type		CMOS	
Parameter		3.3V	
		Min.	Max.
Frequency Range		1.5 MHz	170.0 MHz
Standard Frequency		19.44MHz, 38.4MHz	
Control Voltage Range		0.3V	3.0V
Supply Current			
1.5 MHz ≤ Fo ≤ 20 MHz		-	10 mA
20 MHz ≤ Fo ≤ 50 MHz		-	20 mA
50 MHz ≤ Fo ≤ 170 MHz		-	30 mA
Supply Voltage Variation (V_{DD}) ±10%		2.97V	3.63V
Output Level			
Output "High" (Logic "1")		2.97V	-
Output "Low" (Logic "0")		-	0.33V
Rise Time (Tr)/Fall Time (Tf) (10% V_{DD} – 90% V_{DD})			
1.5 MHz ≤ Fo ≤ 20 MHz		-	5 nSec
20 MHz ≤ Fo ≤ 50 MHz		-	4 nSec
50 MHz ≤ Fo ≤ 170 MHz		-	3 nSec
Tri-State (Input to Pin 2)			
Enable (High voltage or floating)		2.31V	-
Disable (Low voltage or GND)		-	0.99V
Frequency Stability		±50 ppm over -20°C to +70°C or -40°C to +85°C ±25 ppm over -20°C to +70°C ±25 ppm over -40°C to +85°C (depends on operating frequency; case by case)	
Phase Noise @ 38.40 MHz	100 Hz	-100dBc/Hz	
	1 kHz	-133dBc/Hz	
	10 kHz	-140dBc/Hz	
Absolute Pulling Range (APR)		±50ppm min.	
Start-up Time		5ms max.	
Linearity		10% max.	
Modulation Bandwidth (BW) 1.5 MHz ≤ Fo ≤ 170 MHz		15 kHz min.	
Input Impedance		5000 KΩ min.	
Period Jitter (Pk-Pk)		40 pSec max.	
RMS Phase Jitter (Integrated 12 kHz – 20 MHz)		1 pSec max.	
Aging (first year at 25°C)		±3 ppm max.	
Storage Temp. Range		-55°C to +125°C	

Stability vs. Temperature Range Availability		
	Temperature Range	
Stability in ppm	-20°C to +70°C	-40°C to +85°C
±50	Available	Available
±25	Available	Conditional (depends on operating frequency; case by case)

Other customized specifications may be available. Please contact Dynamic Engineers, Inc. for further details.