



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

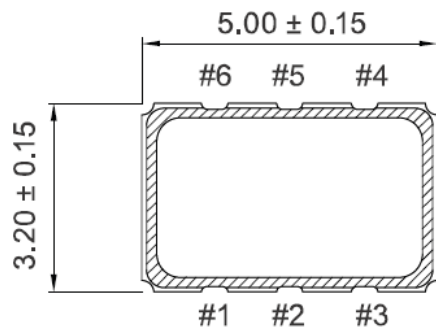
A new series of voltage controlled oscillators with the latest tight symmetry topologies.

Mechanical Drawing & Pin Connections

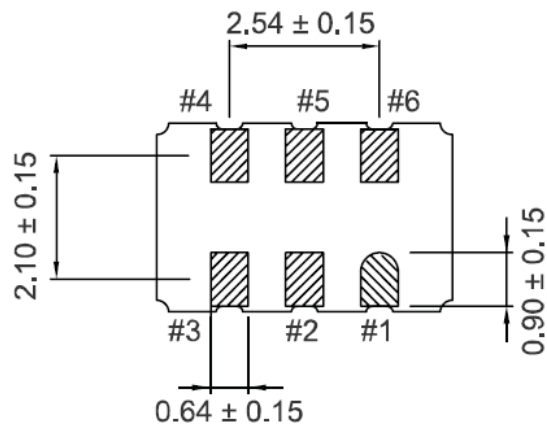
Drawing No:MD160025-1

Unit:mm
1mm=0.0394inch

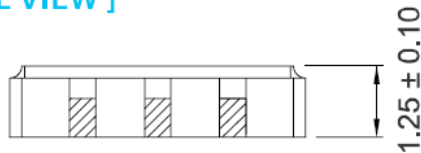
[TOP VIEW]



[BOTTOM VIEW]



[SIDE VIEW]



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



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 maybe available. Please contact Dynamic Engineers Inc. for further details.