



Features and Benefits

Frequency Range 10 MHz to 1450 MHz
7.0 mm x 5.0 mm 6 pads ceramic SMD package
± 50 ppm total stability over -40°C to +85°C LVDS outputs
3.3V supply
Integrated phase jitter of 1.0 pS RMS

Typical Applications

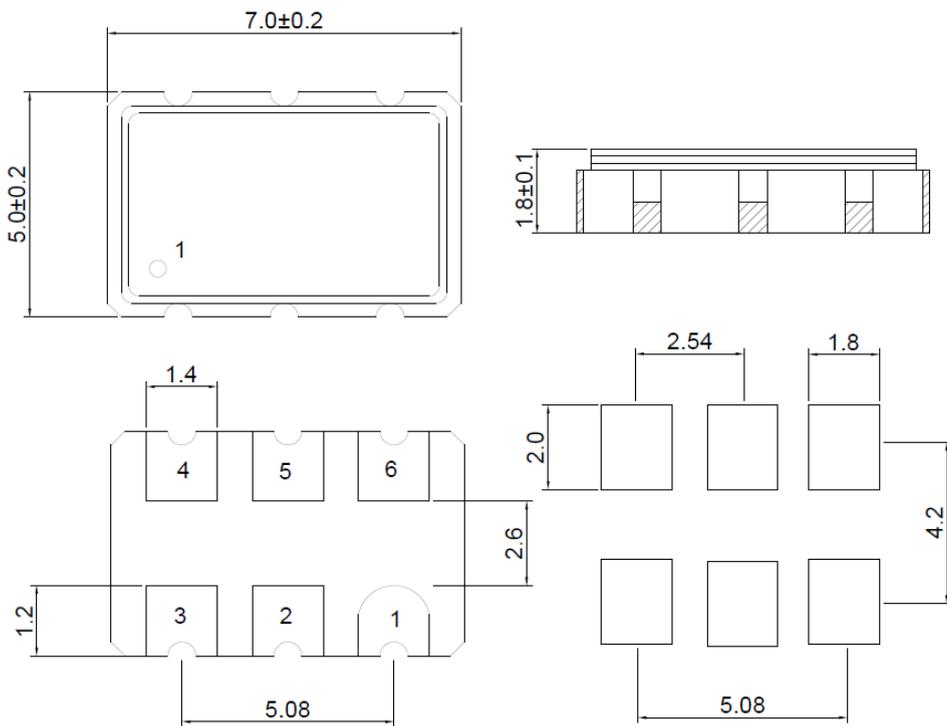
WiMax/WLAN
xDSL/VoIP, cable modem
Set-top Box, HDTV

Description

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

Mechanical Drawing & Pin Connections

Drawing No: MD160041-1



Pin Connection

Pad 1	Control Voltage
Pad 2	Tri-state
Pad 3	Ground
Pad 4	Differential
Pad 5	Complementary
Pad 6	Supply Voltage

Unit : mm
1mm=0.0394inch



Specifications

General Specifications			
Output Logic Type	LVDS		
Parameter	3.3V		
	Min.	Typical	Max
Frequency Range	10MHz	-	1450MHz
Load	Differential		
Current Consumption (V _{DD} = +3.3V)	100MHz : 25mA		750MHz : 39mA
	250MHz: 30mA		1GHz : 43mA
	500MHz: 35mA		1.35GHz : 47mA
Output Level			
Output "High" Voltage; V _{OH}	1.4V		1.6V
Output "Low" Voltage; V _{OL}	0.9V	1.1V	
Current with Output	16mA typical		
Phase Noise	125MHz		1000MHz
	10Hz	-69dBc / Hz	-46dBc / Hz
	100Hz	-97dBc / Hz	-80dBc / Hz
	1 kHz	-114dBc / Hz	-96dBc / Hz
	10 kHz	-124dBc / Hz	-105dBc / Hz
	100KHz	-129dBc / Hz	-108dBc / Hz
	1MHz	-136dBc / Hz	-116dBc / Hz
	10MHz	-154dBc / Hz	-135dBc / Hz
Phase Jitter (12KHz ~ 20MHz, RMS)	0.5pS		0.7pS
Rise Time (Tr)/Fall Time (Tf) Tr/Tf: 20% – 80% waveform	0.2nS		0.4nS
Duty Cycle	50% ±5%		
Start-up Time			10ms max
Aging at Ta = +25°C First year at 25°C Over 10 years			±2 ppm ±10 ppm
Storage Temp. Range	-55°C to +150°C		
Control Voltage Function on Pad 1			
Supply Voltage (V_{DD})	V _{DD} = +3.3V ; Vcon Center = +1.65V		
Vcontrol Range	+0.3V ~ +3.0V		
Frequency Pulling Range	±100ppm (min). Up to ±200ppm (min.) available		
Absolute Voltage	4.0V max. for 3.3V V _{DD}		
Linearity	±5% typical. ±10% max.		
Input Impedance	1M Ω typical		
Bandwidth	10KHz min. measured at -3dB		
Transfer Function	Positive Transfer		
Output Enable Function			
OE Control on Pad 1	0.7 of V _{DD} (min.) or no connection to enable output. 0.3 of V _{DD} (max.) to disable output (high impedance)		
Output Enable Time / Disable Time	200 nS. Max / 50 nS. Max.		
Integrated Phase Jitter	0.6 pS typical (12 KHz to 20 MHz) ; <100 fS (1.875 KHz to 20 MHz)		
Stability vs. Temperature Range Availability			
	Temperature Range		
Stability in ppm	-10°C to +70°C		-40°C to +85°C
±100	Available		Available
±50	Available		Available

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



Test Data

125 MHz LVDS Outputs



1000 MHz LVDS Outputs

