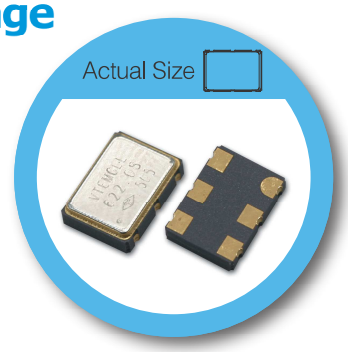
VT-M Type

7.0 x 5.0 mm SMD Differential Output Voltage Controlled Crystal Oscillator



RoHS Compliant

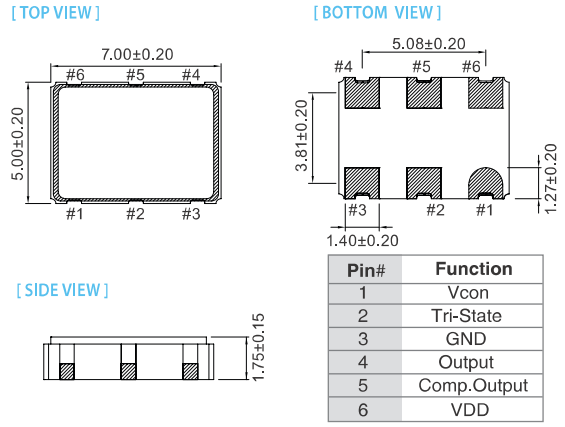
FEATURE

- Typical 7.0 x 5.0 x 1.75 mm 6 pads ceramic SMD package.
- Low jitter performance: < 1 ps RMS from 12k-20MHz.
- Wide frequency control range.
- LVPECL output.
- Output frequency up to 800 MHz.
- Tri-state enable/disable

TYPICAL APPLICATION

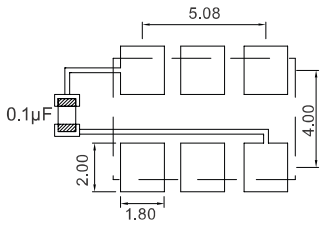
- Set-top Box, HDTV
- xDSL/ VoIP, Cable modem
- WiMAX/WLAN
- Jitter Attenuator, ADC

DIMENSION (mm)



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

SOLDER PAD LAYOUT (mm)



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1μF as close to the part as possible between Vdd and GND pads.

ELECTRICAL SPECIFICATION

Parameter		LVPECL 3.3 V Min.	LVPECL 3.3 V Max.	unit
Supply Voltage Variation (V_{DD}) ±10%		2.97	3.63	V
Frequency Range		100	800	MHz
Standard Frequency		122.88, 125, 155.52, 200, 491.52, 622.08		
Absolute Pulling Range (APR)		±50	–	ppm
Control Voltage Range		0.3	3.0	V
Supply Current	100 MHz ≦ Fo < 160 MHz	–	75	mA
	160 MHz ≦ Fo ≦ 800 MHz	–	100	
Output Level	Output High (Logic "1")	2.275	–	V
	Output Low (Logic "0")	–	1.68	
Transition Time: Rise/Fall Time+		–	1.0	nSec
Start Time		–	3	mSec
Tri-State (input to Pin 2)				
	Enable (High voltage or floating)	2.31	–	V
	Disable (Low voltage or GND)	–	0.99	
Linearity		–	10	%
Modulation Bandwidth (BW)		25	–	kHz
Input Impedance		2000	–	kΩ
RMS Phase Jitter (Integrated 12 kHz~20 MHz)		–	1	pSec
Phase Noise@614.4 MHz	100 Hz	-70		dBc/Hz
	1 kHz	-95		
	10 kHz	-105		
Aging (@ 25°C 1st year)		–	±3	ppm
Storage Temp. Range		-55	125	°C

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.
+ Transition times are measured between 20% and 80% of V_{DD}.

FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C) \ ppm	±25	±50
-10 ~ +60	○	○
-20 ~ +70	△	○
-40 ~ +85	×	○

* ○: Available △:Conditional X: Not available

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

Note: not all combination of options are available. Other specifications may be available upon request.