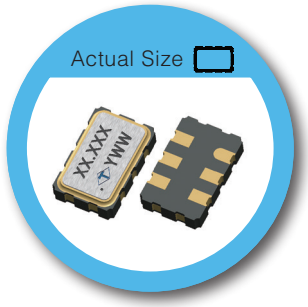
TAITIEN
Our Performance, Your Reputation

VW-M Type
5.0 x 3.2 mm SMD Voltage Controlled Crystal Oscillator

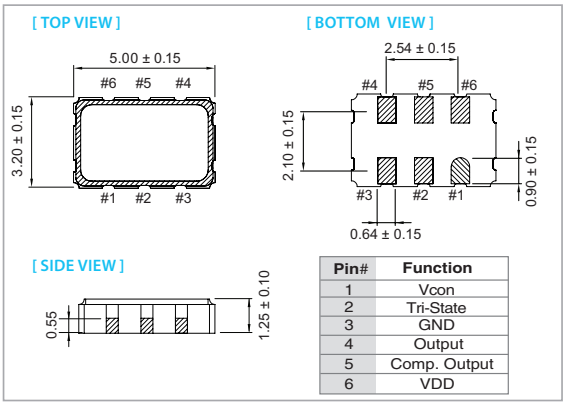


RoHS Compliant

FEATURE
- Typical 5.0 x 3.2 x 1.25 mm 6 pads ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Output frequency up to 250 MHz.
- Tri-state enable/disable

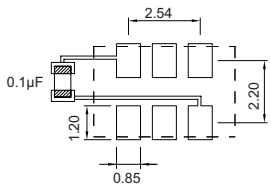
TYPICAL APPLICATION
- Set-top Box, HDTV
- WiMAX/WLAN
- xDSL/ VoIP, Cable modem

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		2.5V / 3.3 V Min.	2.5V / 3.3 V Max.	Unit
Supply Voltage Variation (V_{DD})		V_{DD}-5%	V_{DD}+5%	V
Frequency Range		10	250	MHz
Absolute Pulling Range (APR)		±50	–	ppm
Control Voltage Range		0.3	3.0	V
Supply Current				
	10 MHz ≤ Fo < 160 MHz	–	40	mA
	160 MHz ≤ Fo ≤ 250 MHz	–	50	
Output Level (CMOS)				
	Output High (Logic "1")	2.97	–	V
	Output Low (Logic "0")	–	0.33	
Transition Time: Rise/Fall Time+				
	10 MHz ≤ Fo ≤ 250 MHz	–	2	nSec
Start Time		–	2	mSec
Tri-State (Input to Pin 2)				
	Enable (High voltage or floating)	V_{DD}x0.7	–	V
	Disable (Low voltage or GND)	–	V_{DD}x0.3	
Period Jitter (Pk-Pk)		–	150	pSec
RMS Phase Jitter (12kHz~20MHz) (fractional mode)		0.8	1.5	pSec
RMS Phase Jitter (12kHz~20MHz) (integer mode)		0.6	1.2	pSec
Linearity		–	10	%
Modulation Bandwidth (BW)		10	–	kHz
Input Impedance		1000	–	kΩ
Phase Noise@155.52MHz	100 Hz	-75		dBc/Hz
	1 kHz	-105		
	10 kHz	-125		
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 10% and 90% of V_{DD}, with an output load of 15pF.

FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C) \ ppm	±25	±50
-10 ~ +60	○	○
-20 ~ +70	○	○
-40 ~ +85	△	○
-40 ~ +105	X	△

* ○: 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.

Specifications subject to change without notice.

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