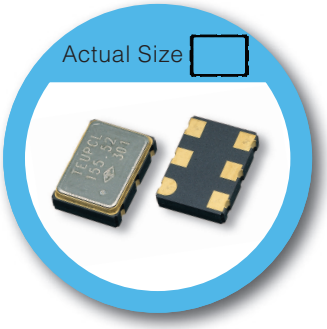
TAITIEN
Our Performance, Your Reputation

VT Type
7.0 x 5.0 mm SMD LVPECL/LVDS Voltage Controlled Crystal Oscillator

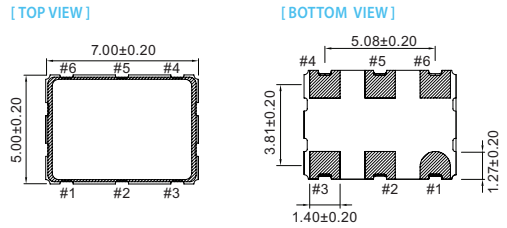


RoHS Compliant

FEATURE
- Typical 7.0 x 5.0 x 1.75 mm 6 pads ceramic SMD package.
- Very low jitter performance: typical 0.3 pS RMS from 12k-20MHz.
- Wide frequency control range.
- Complementary Output.
- Tri-state enable/disable

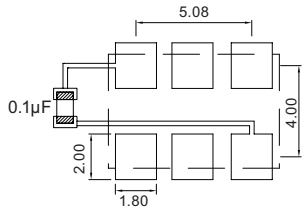
TYPICAL APPLICATION
- Set-top Box, HDTV
- xDSL/ VoIP, Cable modem
- WiMAX/WLAN
- Jitter Attenuator, ADC

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.	LVPECL 2.5V Min.	LVPECL 2.5V Max.	LVDS 3.3 V Min.	LVDS 3.3 V Max.	LVDS 2.5V Min.	LVDS 2.5V Max.	Unit
Supply Voltage Variation (VDD)	VDD-5%	VDD+5%	VDD-5%	VDD+5%	VDD-5%	VDD+5%	VDD-5%	VDD+5%	V
Frequency Range	1.5	200	65	200	1.5	200	65	200	MHz
Standard Frequency	77.76, 106.25, 122.88, 125, 155.52, 156.25, 200								MHz
Absolute Pulling Range (APR)	±50	–	±50	–	±50	–	±50	–	ppm
Control Voltage Range	0.3	3.0	0	2.5	0.3	3.0	0	2.5	V
Supply Current 1.5 MHz ≦ Fo < 65 MHz	–	75	–	75	–	45	–	45	mA
65 MHz ≦ Fo ≦ 200 MHz	–	100	–	100	–	80	–	80	mA
Output Level Output High	2.275	–	1.475	–	–	1.6	–	1.6	V
Output Low	–	1.68	–	1.095	0.9	–	0.9	–	V
Transition Time: Rise/Fall Time+	–	1.0	–	1.0	–	1.0	–	1.0	nSec
Start Time	–	3	–	3	–	3	–	3	mSec
Tri-State (input to Pin 2, Enable High)									
Enable (High voltage or floating)	2.31	–	1.75	–	2.31	–	1.75	–	V
Disable (Low voltage or GND)	–	0.99	–	0.75	–	0.99	–	0.75	V
Linearity	–	10	–	10	–	10	–	10	%
Modulation Bandwidth (BW)	15	–	15	–	15	–	15	–	kHz
Input Impedance	10000	–	10000	–	10000	–	10000	–	kΩ
RMS Phase Jitter (Integrated 12kHz~20MHz)									
Fo < 100 MHz	–	1	–	1	–	1	–	1	pSec
100 MHz ≦ Fo < 125 MHz	–	0.7	–	0.7	–	0.7	–	0.7	pSec
125 MHz ≦ Fo < 150 MHz	–	0.5	–	0.5	–	0.5	–	0.5	pSec
150 MHz ≦ Fo	–	0.3	–	0.3	–	0.3	–	0.3	pSec
Phase Noise@153.6 MHz 100 Hz	-85		-85		-85		-85		dBc/Hz
1 kHz	-115		-115		-115		-115		dBc/Hz
10 kHz	-130		-130		-130		-130		dBc/Hz
Aging (@ 25°C 1st year)	–	±3	–	±3	–	±3	–	±3	ppm
Storage Temp. Range	-55	125	-55	125	-55	125	-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 VDD.

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.