

VT Type

7.0 x 5.0 mm SMD Voltage Controlled Crystal Oscillator

FEATURE

- Typical 7.0 x 5.0 x1.6 mm 6 pads ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Tri-state enable/disable

TYPICAL APPLICATION

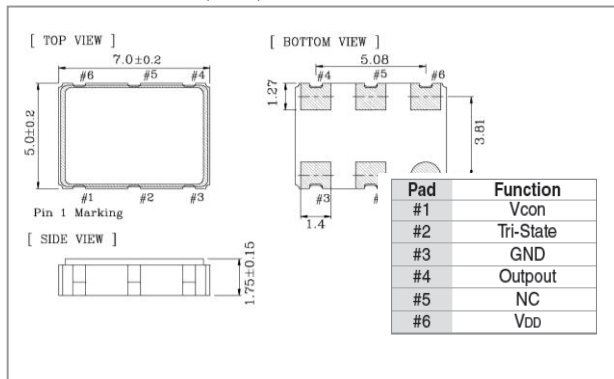
- Set-top Box, HDTV
- WiMax/WLAN
- Xdsl/VoIP, Cable modem

Actual Size 

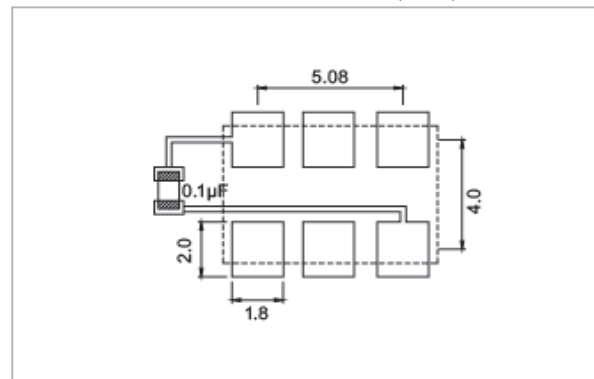


RoHS Compliant Standard

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

Parameter			5.0V		3.3V		Unit
			Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD) 10%			4.5	5.5	2.97	3.63	V
Frequency Range			1.5	50	1.5	200	MHz
Standard Frequency			10,20,25,27,32.768,35.328,38.88,61.44,122.88				
Absolute Pulling Range (APR)			±50	-	±50	-	ppm
Control Voltage Range			0.5	4.5	0.3	3.0	V
Supply Current	1.5MHz ≤F0 < 20 MHz	-	15	-	10	mA	
	20MHz ≤F0 < 50 MHz	-	30	-	20		
	50MHz ≤F0 ≤80 MHz	-	35	-	30		
	80MHz <F0 < 160 MHz	-	-	-	40		
	160MHz ≤F0 ≤200 MHz	-	-	-	50		
Output Level(CMOS)							V
Output High (Logic “1”)		90%VDD	-	90%VDD	-		
Output Low (Logic “0”)		-	10%VDD	-	10%VDD		
Transition Time : Rise/ Fall Time							nSec
1.5MHz ≤F0 < 20 MHz		-	4	-	5		
20MHz ≤F0 < 50 MHz		-	3	-	4		
50MHz ≤F0 ≤80 MHz		-	2	-	3		
80MHz <F0 ≤200 MHz		-	-	-	2		
Start Time			-	5	-	5	mSec
Tri-State(Input to Pin 2)							V
Enable(High voltage or floating)		0.7VDD	-	0.7VDD	-		
Disable(Low voltage or GND)		-	0.3VDD	-	0.3VDD		
Absolute Clock Period Jitter			-	40	-	40	pSec
RMS Phase Jitter(Integrated 12 KHz~20 MHz)			-	1	-	1	pSec
Linearity			-	10	-	10	%
Modulation Bandwidth(BW)							KHz
1.5MHz ≤F0 ≤175 MHz		15	-	15	-		
175MHz < F0 ≤200 MHz		45	-	45	-		
Input Impedance							KΩ
1.5MHz ≤F0 < 100 MHz		2000	-	2000	-		
100MHz ≤F0 ≤200 MHz		50	-	50	-		
Phase Noise @35.328 MHz	100 Hz	-	-80	-	-80	dBc/Hz	
	1 KHz	-	-130	-	-130		
	10 KHz	-	-140	-	-140		
Aging (@25°C 1st year)		-	±3	-	±3	ppm	
Storage Temp. Range		-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 10% and 90% of VDD, with an output load of 15pF.

Packing: Tape & Reel 1000/3000pcs per Reel..

FREQ. STABILITY vs. TEMP. RANGE

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

* O: Available △: Conditional X: Not available

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