

20.4 x 1 2.8 mm Voltage Controlled Temperature Compensated Crystal Oscillator(VCTCXO)

FEATURE

Typical 20.4 x 12.8 x 7.8 mm.
Compatible with 14-pin dual in line.
Double sealed metal case and high reliability.
VCTCXO available

TYPICAL APPLICATION

Large-Scale equipment
WLAN / WIMAX
Mobile Phone



ELECTRICAL SPECIFICATION

Parameter	Clipped Sine Wave				CMOS				Unit									
	5.0V		2.8V		5.0V		2.8V											
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.										
Supply Voltage Variation (VDD) 5%	4.75	5.25	2.66	2.94	3.13	3.47	2.66	2.94	V									
Frequency Range	10	40	10	40	1.25	40	1.25	40	MHz									
Frequency Tolerance*	-	±2.0	-	±2.0	-	±2.0	-	±2.0	ppm									
Frequency Stability																		
Vs Supply Voltage (±5%) change	-	±0.2	-	±0.2	-	±0.2	-	±0.2	ppm									
Vs Load (±10%) change	-	±0.2	-	±0.2	-	±0.2	-	±0.2	ppm									
Vs Aging (@ 1st year)	-	±1.0	-	±1.0	-	±1.0	-	±1.0	ppm									
Supply Current	Only for clipped sine wave																	
10MHz ≤ F0 < 15MHz										-	1.5	-	1.5					
15MHz ≤ F0 < 26MHz										-	2.0	-	2.0					
26MHz ≤ F0 < 40MHz	-	-	-	2.5														
Output Level	0.8	-	0.8	-					Vp-p									
Supply Current	Only for CMOS																	
1.25MHz ≤ F0 < 10MHz										-	-	-	-	10	-	7		
10MHz ≤ F0 < 15MHz										-	-	-	-	15	-	10		
15MHz ≤ F0 < 26MHz										-	-	-	-	20	-	15		
26MHz ≤ F0 < 40MHz										-	-	-	-	25	-	20		
Output Level																		
Output High (Logic "1")					90%VDD or 2.4v	-	90%VDD or 2.4v	-										
Output Low (Logic "0")					-	10%VDD or 0.4v	-	10%VDD or 0.4v										
Duty					40	60	40	60										
Control Voltage Range (VCTCXO)	0.5	2.5	0.5	2.5					V									
Pulling Range (VCTCXO)	±5.0								ppm									
VC Input Impedance (VCTCXO)	100	-	100	-					KΩ									
Phase Noise @13.0MHz																		
100 Hz	-115		-115		-115		-115											
1KHz	-135		-135		-135		-135											
10KHz	-148		-148		-148		-148											
Start Time	-	2	-	2	-	2	-	2	mSec									
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.
*Frequency at 25 °C, 1 hour after reflow. Packing:132pcs/Box

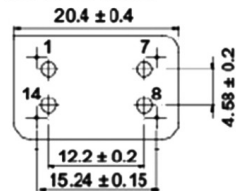
DIMENSION (mm)

[TOP VIEW]



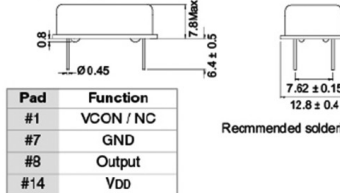
Pin 1 Symbol

[BOTTOM VIEW]



SOLDER PAD LAYOUT (mm)

[SIDE VIEW]



Recommended soldering pattern

Pad	Function
#1	VCON / NC
#7	GND
#8	Output
#14	VDD

FREQ. STABILITY vs. TEMP. RANGE

Output Logic	Clipped sine Wave		CMOS	
	ppm	ppm	ppm	ppm
Temp. (°C)	±0.5	±1.0	±0.5	±1.0
0~+55	O	O	O	O
-10~+80	O	O	O	O

Output Logic	Clipped sine Wave		CMOS	
	ppm	ppm	ppm	ppm
Temp. (°C)	±0.5	±1.0	±0.5	±1.0
-20~+70	O	O	O	O
-40~+85	Δ	O	Δ	O

O: Available Δ: Conditional X: Not available
Pulling Range: ≤10ppm available