

# VH Type Voltage Controlled Crystal Oscillator

RoHS Compliant Optional

## FEATURE

1. Typical 12.8 x 12.8 x 5.0mm, standard package & 8-Pin dual in line.
2. Pulling range:  $\pm 150$ ppm max.
3. Aging:  $\pm 1$ ppm/year.
4. TTL/ CMOS output.
5. Packing: 40 pcs per Tube.



## ORDERING INFORMATION

V	H	T	U	P	C	J	-	N	L	-	?	
VCXO	Package (mm)	Supply Voltage(V) & Pin Form		Freq.Stability/ Tolerance/ Pulling Range(ppm)	Temp. Range (°C)	Output Logic and Symmetry		Dash	Appearance	Lead Free	Dash	Freq.(MHz)
	12.8x12.8	Through Hole T: 5.0 E:2.8-3.3  Gull Wing G:5.0 F:2.8-3.3		M: $\pm 25/\pm 15/\pm 100$ G: $\pm 35/\pm 20/\pm 100$ P: $\pm 50/\pm 20/\pm 100$ R: $\pm 50/\pm 20/\pm 150$ T: $\pm 25/\pm 15/\pm 150$	C: -20~+70 D: -30~+80 L: -40~+85		50 $\pm$ 5% 50 $\pm$ 10%		N:Normal	F:RoHS Compliant L:Not RoHS Compliant		xx.xxxxxx
						10TTL 15pF	A B					
						CMOS 15pF	J K					
						CMOS 50pF	F G					

### Ordering Example: VHTUPCJ-NL-10.000000 MHz

VCXO H-TYPE;  $V_{DD}$ : 5V; Freq. Stability:  $\pm 50$ ppm, Freq. Tolerance:  $\pm 20$ ppm, Pulling Range:  $\pm 100$ ppm; Temp. Range: -20°C to +70°C; CMOS 15pF, Duty: 50 $\pm$ 5%; Normal Appearance; Not RoHS Compliant; Freq. 10.000000MHz.

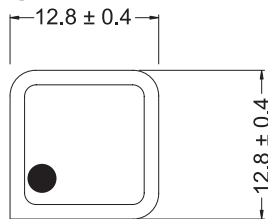
## FREQ. STABILITY vs. TEMP. RANGE

Temp°C	Freq Stab/ Tolerance/ Pulling	M: $\pm 25/\pm 15/\pm 100$	G: $\pm 35/\pm 20/\pm 100$	P: $\pm 50/\pm 20/\pm 100$	R: $\pm 50/\pm 20/\pm 150$	T: $\pm 25/\pm 15/\pm 150$
C	-20~ +70	△	○	○	○	△
D	-30~ +80	X	○	○	○	X
L	-40~ +85	X	○	○	○	X

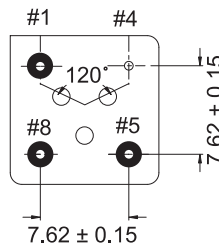
○ : Standard    △ : Available (case by case)    × : Not available

## OUTLINE DRAWING

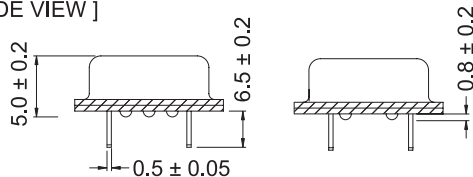
[ TOP VIEW ]



[ BOTTOM VIEW ]



[ SIDE VIEW ]



UNIT : mm

Pin	Function
#1	VCON
#4	GND
#5	OUTPUT
#8	$V_{DD}$

VCXO

## ELECTRICAL SPECIFICATION

Parameter	Min.		Max.		Unit
	5.0	3.3	5.0	3.3	
Supply Voltage Variation( $V_{DD}$ ) 5%	4.75	3.13	5.25	3.47	V
Frequency Range	2.5		45		MHz
Operating Temp. Range	Refer to Ordering Information				
Frequency Stability *	Refer to Ordering Information				ppm
<b>Frequency Stability</b>					
Vs Supply Voltage( $\pm 5\%$ ) change	—		$\pm 3$		ppm
Vs Load( $\pm 10\%$ ) change	—		$\pm 3$		
Vs Aging	—		$\pm 1$		ppm/year
<b>Supply Current</b>					
2.5000MHz $F_o < 10.000$ MHz	—		10	7	mA
10.000MHz $F_o < 15.000$ MHz	—		15	10	
15.000MHz $F_o < 26.000$ MHz	—		20	15	
26.000MHz $F_o < 45.000$ MHz	—		25	20	
<b>Output Level (TTL/CMOS)</b>					
High Level("1")	90% $V_{DD}$ or 2.4V		—		V
Low Level ("0")	—		10% $V_{DD}$ or 0.4V		
Duty	40%		60%		
<b>Vc Input Impedance</b>	50				K $\Omega$
<b>Start Time</b>	—		2		mSec
<b>Storage Temp. Range</b>	-55		125		

\*Inclusive of calibration @ 25°C, operating temperature range, input voltage variation, load variation, aging, shock, and vibration.