

RoHS Compliant Standard

VC Type Multiplier Voltage Controlled Crystal Oscillator

Actual Size



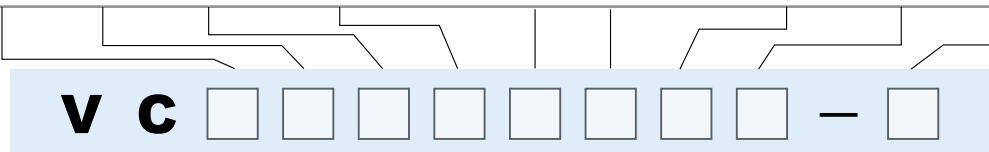
FEATURE

1. Typical 7.5 × 5.0 × 1.65 mm ceramic SMD package.
2. Tight symmetry (45 to 55%) available.
3. Packing: Tape & Reel, 1000/3000 pcs per Reel.

ORDERING INFORMATION

Select option

VCXO	Package (mm)	Supply Voltage(V)	Tri-State Function	Freq. Stability /Pulling Range (ppm)	Temp. Range (°C)	Output LLogic and Symmetry	Oscillator Mode	Appearance	Lead Free	Dash	Freq. (MHz)
	7.5 × 5	E : 3.3	M : Multiplier Frequency	M : ±25 / ±100 P : ±50 / ±100	I : -10 ~ +60 C : -20 ~ +70 L : -40 ~ +85	50 ± 5% CMOS 15pF J CMOS 50pF F	-A : AT Fundamental NOT SELECTABLE BY CUSTOMER	N : Normal	F : RoHS Compliant		XX.XXXXXX



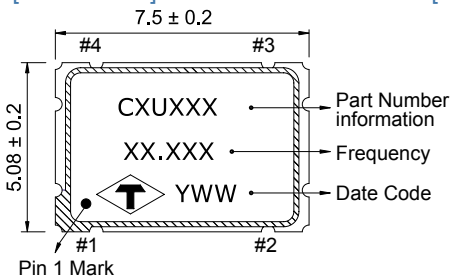
Example VCEMPCJANF-90.000000

VCXO C-TYPE; V_{DD}: 3.3V; Multiplier (PLL) Frequency; Freq. Stability: ±50ppm, Pulling Range: ±100ppm; Temp. Range: -20°C to +70°C. Load: CMOS 15pF, Symmetry: 50±5%; AT Fundamental; Normal Appearance; RoHS Compliant; Freq. 90.000000MHz.

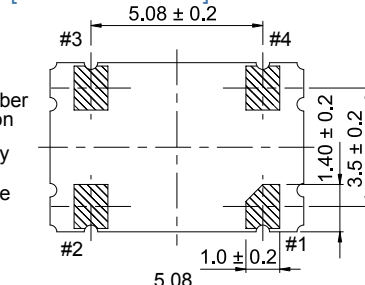
* Not all combinations of options are available.

OUTLINE DRAWING

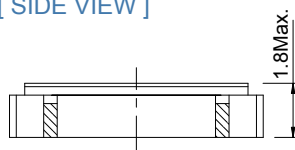
[TOP VIEW]



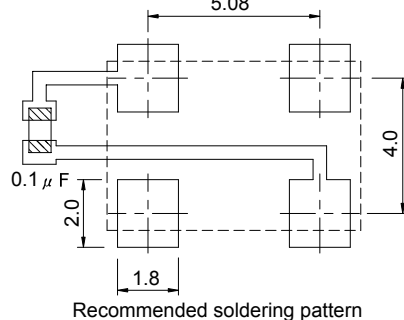
[BOTTOM VIEW]



[SIDE VIEW]



UNIT : mm



Recommended soldering pattern

FREQ. STABILITY vs. TEMP. RANGE

Temp.(°C)	ppm		
	M: ±25	P: ±50	
I	-10 ~ +60	○	○
C	-20 ~ +70	○	○
L	-40 ~ +85	△	○

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

Pin	Function
#1	VCON
#2	GND
#3	Output
#4	V _{DD}

**ELECTRICAL SPECIFICATION**

Parameter	Min.	Max.	Unit
	3.3		V
Supply Voltage Variation(V _{DD}) 10%	2.97	3.63	V
Frequency Range	60	200	MHz
Operating Temp. Range	Refer to Ordering Information		°C
Frequency Stability *	Refer to Ordering Information		ppm
Pulling Range	±100	–	ppm
Control Voltage Range	0.3	3.0	V
Supply Current			
60MHz ≤ Fo < 160MHz	–	40	mA
160MHz ≤ Fo ≤ 200MHz	–	50	
Output Level (CMOS)			
Output High (Logic “1”)	90% V _{DD}	–	V
Output Low (Logic “0”)	–	10% V _{DD}	
Transition Time:Rise/Fall Time ⁺			
60MHz ≤ Fo ≤ 200MHz	–	5	nSec
Start Time	–	5	mSec
Absolute Clock Period Jitter	–	150	pSec
Linearity	–	10	%
Modulation Bandwidth	25	–	KHz
Input Impedance	2	–	MΩ
Storage Temp. Range	-55	125	°C

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

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

⁺ Transition times are measured between 10% and 90% of V_{DD}, with an output load of 15pF.

