

## Voltage Controlled Crystal Oscillators (VCXOs)

## VC14



## Description:

- Stability up to  $\pm 10 \times 10^{-6}$
- Control Voltage Range  $\pm 200 \times 10^{-6}$  Max
- TTL/HCMOS Output
- 14PIN Package
- SDH/SONET
- ATM
- WLL
- Measurement Equipment
- PLL Circuits

## Performance Characteristics

Parameter		Condition	VC14	
Frequency Range	$F_0$		1.544MHz~50.000MHz	
Frequency Stability		All Condition	See Next Table	
Operating Temperature Range	$T_{OPR}$		See Next Table	
Linearity			$\pm 10\%$	
Supply Voltage	$V_{DD}$		B: +5.0VDC $\pm 10\%$	A: +3.3VDC $\pm 10\%$
Supply Current	$I_{DD}$	$1.544M \leq F_0 < 10M$	10mA Max	7mA Max
		$10M \leq F_0 < 26M$	20mA Max	15mA Max
		$26M \leq F_0 < 50M$	25mA Max	20mA Max
Output Load			A: TTL 15pF C: CMOS 15pF D: CMOS 50pF	
Output Duty		1.4V or $1/2V_{DD}$	45%~55%	
Control Voltage Range			See Ordering Information	
Frequency Stability $V_s$	Supply Voltage change	$\pm 5\%$	$\pm 3 \times 10^{-6}$	
	Load change	$\pm 10\%$	$\pm 3 \times 10^{-6}$	
	Aging		$\pm 3 \times 10^{-6}/\text{year}$	
Rise Time	$T_r$	0.4V~2.4V	10nS Max	
		$10\%V_{DD} \sim 90\%V_{DD}$		
Fall Time	$T_f$	2.4V~0.4V	10nS Max	
		$90\%V_{DD} \sim 10\%V_{DD}$		
Output Level	"0"Level	$V_{OL}$	0.4V Max or $10\%V_{DD}$	
	"1"Level	$V_{OH}$	2.4V Min or $90\%V_{DD}$	
Start-Up Time	$T_s$		10mS Max	
Vc Input Impedance			100K $\Omega$	
Storage Temperature Range	$T_{STG}$		$-55^\circ\text{C} \sim +125^\circ\text{C}$	
Package			DIP14	

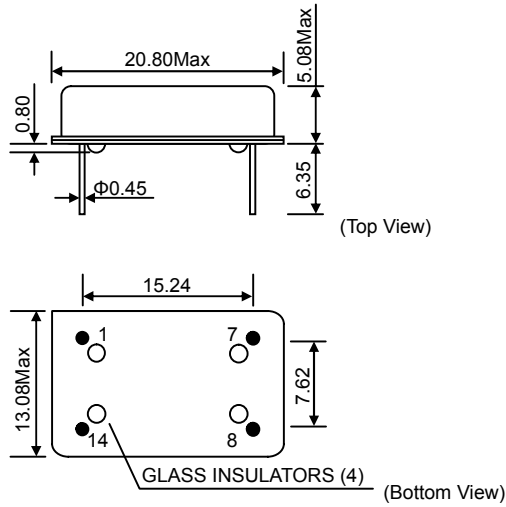
## Frequency Stability Over Temperature Range

Temperature Range	Frequency Stability			
	O: $\pm 10 \times 10^{-6}$	P: $\pm 15 \times 10^{-6}$	R: $\pm 25 \times 10^{-6}$	T: $\pm 50 \times 10^{-6}$
A: $0^\circ\text{C} \sim +50^\circ\text{C}$	●	●	●	●
B: $-10^\circ\text{C} \sim +60^\circ\text{C}$	●	●	●	●
C: $-20^\circ\text{C} \sim +70^\circ\text{C}$	●	●	●	●
G: $-40^\circ\text{C} \sim +85^\circ\text{C}$			●	●

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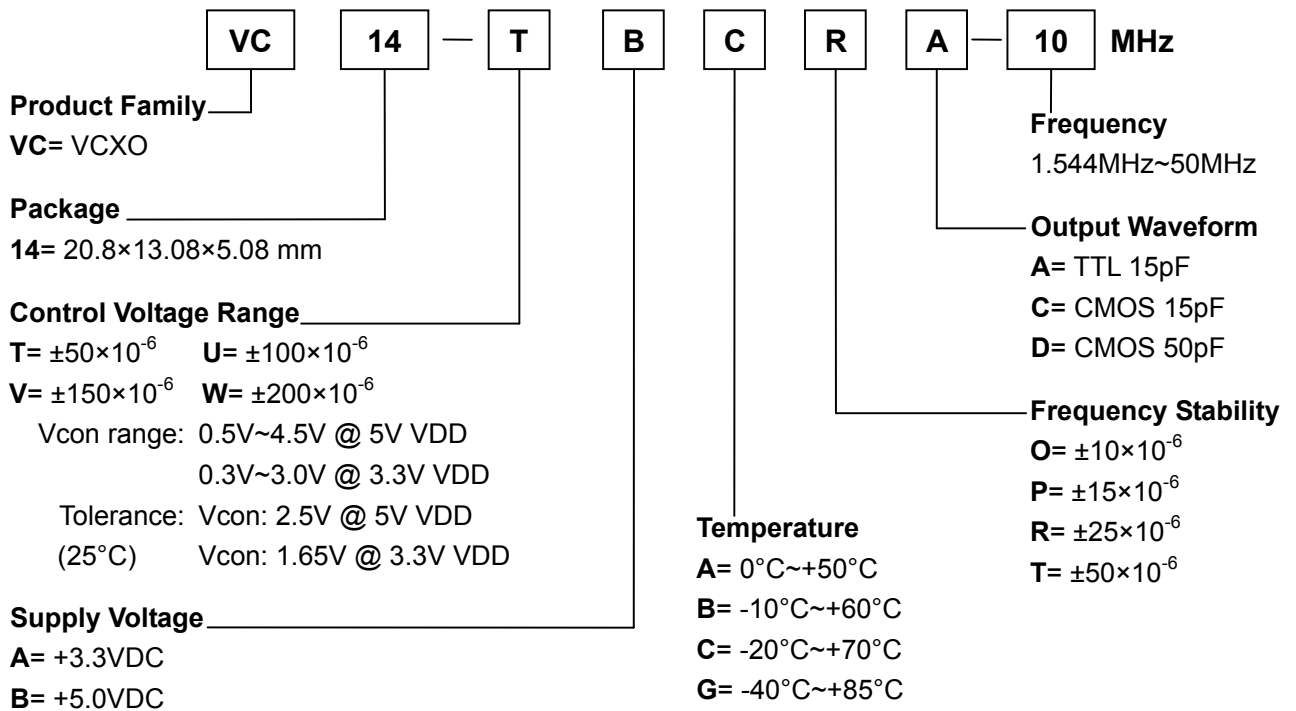
### VC14

#### Outline Drawing (mm)



PIN	FUNCTION
#1	VC
#7	GND
#8	OUTPUT
#14	+DC

#### Ordering Information



#### Ordering Example

**VC14-TBCRA-10MHz**

VCXO / Pulling Range:  $\pm 50 \times 10^{-6}$  / +5.0VDC / -20°C~+70°C / Frequency Stability:  $\pm 25 \times 10^{-6}$  / TTL 15pF / 10MHz