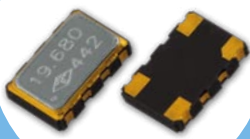


RoHS Compliant Standard

# TV Type Voltage Controlled Temperature Compensated Crystal Oscillator

Actual Size



## FEATURE

1. Typical  $5.0 \times 3.2 \times 1.15$  mm SMD.
2. For automatic assembly.
3. Compactness and light weight.
4. Low power consumption.
5. VCTCXO available.
6. External DC-CUT capacitor required, NPO 150pF recommended.

## ORDERING INFORMATION

Select option

TCXO	Package (mm)	Supply Voltage (V)	Pulling Range	Freq. Stability (ppm)	Temp. Range (°C)	Output Logic and Symmetry	Oscillator Mode	Appearance	Lead Free	Dash	Freq. (MHz)
	5×3.2	C:5 E:2.8~3.3	A: ± 5 B: ± 8 C: ±10 T: TCXO Vcon range: 0.5V to 2.5V	A: ±0.5 B: ±1.0 P: ±1.5 C: ±2.0 D: ±2.5 E: ±3.0 F: ±4.0 G: ±5.0	B: 0~+55 I: 10~+60 C: -20~+70 D: -30~+85 L: -40~+85	S: Clipped sine wave @10KΩ /10pF	-A: AT Fundamental NOT SELECTABLE BY CUSTOMER	N: Normal	F: RoHS Compliant		XX.XXXXXX

T	V									-	
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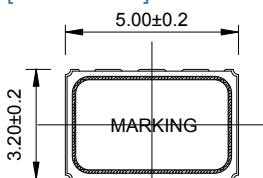
Example TVECDSDSANF-26.000000

VCTCXO V-TYPE; VDD: 3.3V, Pulling range: ±10ppm, Frequency Stability: ±2.5ppm; Temp. Range: -30°C to +85°C; Clipped Sine Wave; AT Fundamental; Normal Appearance; Lead Free; Freq. 26.000000MHz.

\* Not all combinations of options are available.

## OUTLINE DRAWING

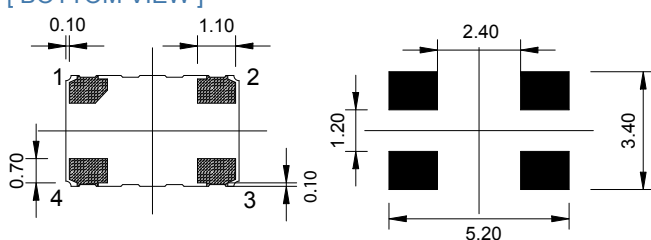
[ TOP VIEW ]



[ SIDE VIEW ]



[ BOTTOM VIEW ]



UNIT: mm

Recommended Soldering Pattern

Pin	Function
1	VCON : VCTCXO GND : TCXO
2	GND
3	OUTPUT
4	VDD

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XO-0043-11 P.1/2  
Apr. 30. 2007



## FREQ. STABILITY vs. TEMP. RANGE

ppm		A: $\pm 0.5$	B: $\pm 1.0$
Temp.(°C)			
B	0~+50	○	○
I	-10~+60	○	○
C	-20~+70	○	○
D	-30~+85	△	○
L	-40~+85	△	△"

○:Standard △:Available (case by case)  
 ×:Not available  
 " 10~26MHz and Pulling < 10ppm available

## ELECTRICAL SPECIFICATION

Parameter	Min.	Max.	Unit
Supply Voltage Variation(V <sub>DD</sub> ) 5%	5.0	2.8	V
Frequency Range	4.75	2.66	V
Standard Frequency	10	40*	MHz
Operating Temp. Range	13.0, 14.4, 16.368, 16.369, 16.8, 19.2, 19.68, 20.0, 24.5535, 26.0		°C
Frequency Stability *	Refer to Ordering Information		ppm
Frequency Stability	Refer to Ordering Information		ppm
Vs Supply Voltage ( $\pm 5\%$ ) change	—	$\pm 0.2$	ppm
Vs Load ( $\pm 10\%$ ) change	—	$\pm 0.2$	ppm
Vs Aging	—	$\pm 1.0$	ppm / year
Supply Current			mA
10.000MHz $\leq$ Fo < 15.000MHz	—	1.5	mA
15.000MHz $\leq$ Fo < 26.000MHz	—	2.0	mA
26.000MHz $\leq$ Fo $\leq$ 40.000MHz	—	2.5	mA
Output Level (Clipped Sine Wave)	0.8	—	Vp-p
Load	10K $\Omega$ // 10pF		M $\Omega$
Vc Input Impedance	1.0	—	M $\Omega$
Phase Noise @13.0MHz			dBc/Hz
100Hz	-115		dBc/Hz
1KHz	-135		dBc/Hz
10KHz	-148		dBc/Hz
Start Time	—	2	mSec
Storage Temp. Range	-55	125	°C

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

\* 26.000 ~ 40.000 MHz only for V<sub>DD</sub> = 2.8 ~ 3.3V.