



## HCMOS/TTL TCXO / VC-TCXO IN SMD PACKAGE - TCSC Series

### FEATURES

- RoHS Compliant (Pb-Free), Tight Stability over Wide Temperature Range
- Available with both Voltage Control for Electric Frequency Adjustments and Internal Trimmer
- HCMOS/TTL Compatible Output, Low Phase Noise
- Industry de factor Standard SMD Footprint

### SPECIFICATIONS

<b>Frequency Range</b>	1.5 MHz to 35 MHz
<b>Standard Frequency</b>	12.8/13.0/14.4/15.36/16.8/19.44 MHz
<b>Supply Voltage (Vcc)</b>	A = 5.0 VDC $\pm$ 5%; B = 3.3 VDC $\pm$ 5%
<b>Input Current</b>	20 mA Maximum (1.5 MHz to 9.999 MHz); 30 mA Maximum (10 MHz to 35 MHz)
<b>Storage Temperature</b>	-40°C to 85°C
<b>Controllable Frequency Option</b>	VI = Voltage control: $\pm$ 5 ppm Minimum + Internal trimmer: $\pm$ 3 ppm Minimum I = Internal trimmer only (no voltage control input): $\pm$ 3 ppm Minimum
<b>Control Voltage (Vc)</b>	2.5 $\pm$ 2.0 VDC for Vcc = 5 VDC; 1.65 $\pm$ 1.5 VDC for Vcc = 3.3 VDC
<b>Setability of Vc at Fnom, 25°C</b>	2.5 $\pm$ 0.5 V DC for 5.0V part; 1.65 $\pm$ 0.4 VDC for 3.3V part
<b>Frequency Stability vs Temp. Temperature Range</b>	010 = $\pm$ 1 ppm; 015 = $\pm$ 1.5 ppm; 020 = $\pm$ 2 ppm; 025 = $\pm$ 2.5 ppm; 050 = $\pm$ 5 ppm A = 0°C to 70°C; B = -40°C to 85°C; F = 0°C to 50°C; H = -30°C to 75°C
<b>Standard Stability</b>	025H = $\pm$ 2.5 ppm / -30°C to 75°C
<b>Frequency Stability vs Vcc</b>	$\pm$ 0.3 ppm Maximum / Vcc $\pm$ 5%
<b>Frequency Stability vs Load</b>	$\pm$ 0.3 ppm Maximum / 10 kOhms// 10 pF $\pm$ 10%
<b>Aging</b>	$\pm$ 1 ppm Maximum per year @25°C
<b>Phase Noise</b>	-145 dBc/Hz at 1KHz
<b>Output Load</b>	10 TTL or 15 pF HCMOS Maximum
<b>Logic "1" / Logic "0" Level</b>	TTL: 2.4V Minimum / 0.4V Maximum; HCMOS: 0.9Vcc Minimum / 0.1Vcc Maximum
<b>Rise/Fall Time (Tr/Tf)</b>	10 ns Maximum
<b>Duty Cycle</b>	0 = No tristate 60/40%; 2 = No tristate 55/45%; 3 = Tristate 55/45%

### Creating a Part Number

<b>TCSC-25M000-A VI 025 H 0</b>	
Product Series	Duty Cycle: see above
Frequency	Operating Temperature Range: A = 0 to 70°C
Supply Voltage: A = 5.0V	Frequency Stability: B = -40 to 85°C
B = 3.3V	Tuning: H = -30 to 75°C
	VI 010 = $\pm$ 1.0 ppm
	I 020 = $\pm$ 2 ppm
	X = Customized Temp Range
	025 = $\pm$ 2.5 ppm

### OUTLINE DRAWING

