

# TEMPERATURE-COMPENSATED CRYSTAL OSCILLATOR

## CSTO-2016



### Applications

- GPS / WiMAX / LTE / Wifi
- Communication Equipment
- Automotive

### Features

- Ultra-thin / Dimensions (2.0×1.6×0.8)
- Sealed
- Compliant products with AEC-Q100
- High stability  $\pm 0.5\text{ppm} / -40 \sim +105^\circ\text{C}$
- Low phase noise / Low power consumption
- HCMOS output with Tri-state function

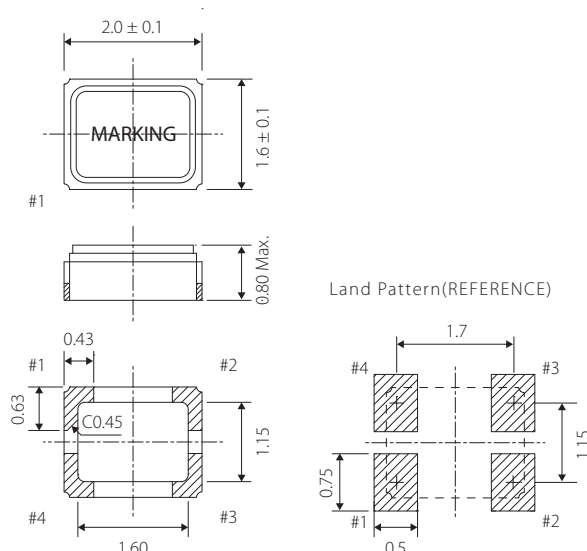
### Specifications



Model	CSTO-2016	
Frequency range	16.000~52.000MHz	
Nominal frequency (MHz)	16.369, 16.384, 19.2, 26, 38.4, 52	
Frequency stability	Tolerance at 25°C	$\pm 2.0 \times 10^{-6}$ (Sixty minutes after refloe)
	Temperature (Ref.to+25°C)	$\pm 2.5 \times 10^{-6} / -40 \sim +105^\circ\text{C}$
	Supply voltage change	$\pm 0.2 \times 10^{-6} / V_{\text{dd}} \pm 5\%$
	Load change	$\pm 0.2 \times 10^{-6} / Z_L \pm 10\%$
Aging	$\pm 1.0 \times 10^{-6} / \text{year at } +25^\circ\text{C}$	
Storage temperature range	-40 ~ +105°C	
Power supply voltage (Vdd)	+1.8V ~ +3.3V $\pm 5\%$	
Current Consumption	7mA max. / 10uA max (Standby)	
Output level	CMOS	
Load	15pF	
Output voltage level	V <sub>OL</sub> : 10%V <sub>dd</sub> max. / V <sub>OH</sub> : 90%V <sub>dd</sub> min.	
Rise & Fall time	5ns max. / 10%V <sub>dd</sub> ~ 90%V <sub>dd</sub>	
Duty cycle	45% ~ 55% at 1/2V <sub>dd</sub>	
Phase Noise	-135dBc typ. at 1kHz offset	
Tri-state Function	#1: Floating or "H"→Output enable / #1: "L"→Output disable (Hi-Z)	

Package quantity: 3,000pcs max./Reel.

### Outline and Dimensions [unit:mm]



Terminal	Connection
#1	Tri-state
#2	GND
#3	Output
#4	Vcc

Tri-state Function	
Tri-state pin	Output
High or Floating	Active
Low	Hi-Impedance