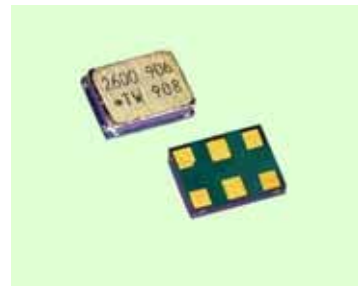


# TTS30NSL / VSL

## Ultra-compact high precision Temperature Compensated Crystal Oscillator (TCXO)

### ◆ Feature

- Reflow solderable, SMD package base offers superior flatness.
- Ultra-compact (2.0×1.6), lowest height (0.8t max), light weight, and low Current consumption type.
- Suitable for Cell phone, Base station, GPS and mobile radio application.
- RoHS compliant.



- Added functions: The enable/disable function is available.**
- : The temperature sensor output function is available.**

### ◆ Specifications

Item	Symbol	Specifications		Conditions
		TTS30NS L(TCXO)	TTS30VSL (VC-TCXO)	
Output frequency	$f_0$	13.0 MHz to 52.0 MHz		
Supply voltage	Vcc	+1.7V to +3.7V		
Current consumption	Icc	2.0mA max.		at Vcc=+2.8V , 10 kOhm//10 pF
Output voltage	Vpp	0.8 V min.		NOTE 1) DC coupling
Load	Load_R,C	10 kOhm // 10 pF		
Frequency Stability				
/Frequency tolerance	$f_{tol}$	$\pm 1.0 \times 10^{-6}$ max.		After reflow , at +25 °C
/ temperature characteristics	$f_{0\_Tc}$	$\pm 0.5 \times 10^{-6}$ max.		-30 °C to +85 °C
/ voltage coefficient	$f_{0\_Vcc}$	$\pm 0.2 \times 10^{-6}$ max.		at Vcc=+2.8V $\pm 5\%$
/load coefficient	$f_{0\_Load}$	$\pm 0.2 \times 10^{-6}$ max.		at (10kOhm // 10pF) $\pm 10\%$
/ Frequency ageing	$f_{age}$	NOTE 2) $\pm 1.0 \times 10^{-6}$ max.		1 year , at +25 °C
Frequency controlled range	$f_{cont}$	---	$\pm 5$ to $\pm 15 \times 10^{-6}$	Vc=+1.4V $\pm 1.0V$ , Positive polarity

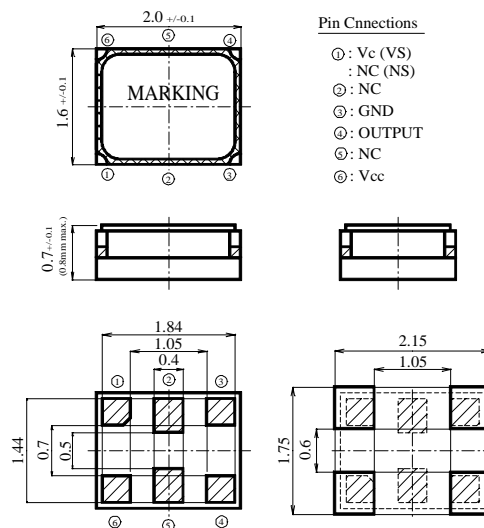
NOTE 1) DC-cut capacitor of output is not put in TCXO. Please add DC-cut capacitor (1,000pF) in oscillator output line.

### ◆ Phase Noise

Frequency Offset (Hz)	Phase Noise (dBc/Hz)
100	-110 typ.
1k	-130 typ.
10k	-148 typ.
100k	-148 typ.

at  $f_0=26.000\text{MHz}$  (25 $\pm 2^\circ\text{C}$ )

### ◆ Outline



Products with specific requirements are available upon request.