

TTS18NSH / VSH

High precision Temperature Compensated Crystal Oscillator (TCXO)

◆ Feature

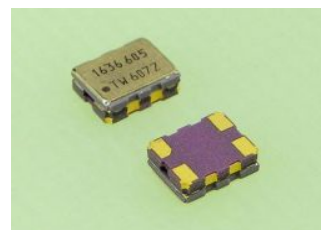
Reflow solderable , Ceramic SMD package base offers superior flatness.

Ultra-compact (3.2×2.5),lowest height , light weight , and low

Current consumption type.

Suitable for Cell phone, Base station, GPS, and mobile radio application.

RoHS compliant



◆ Specifications

Item	Symbol	Specifications		Conditions
		TTS18NSH (TCXO)	TTS18VSH (VC-TCXO)	
Output frequency	f_0	10.0 MHz to 40.0 MHz		
Supply voltage	Vcc	+2.3V to +3.7V		
Current consumption	Icc	2.0 mA max.		Vcc=3.0V , 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}	$\pm 2.0 \times 10^{-6}$ max.		After reflow , at 25 °C
/ temperature characteristics	f_{0_Tc}	$\pm 0.5 \times 10^{-6}$ max.		-30 °C to +85 °C , Vc=1.5V
/ voltage coefficient	f_{0_Vcc}	$\pm 0.2 \times 10^{-6}$ max.		at 3.0V $\pm 5\%$
/load coefficient	f_{0_Load}	$\pm 0.2 \times 10^{-6}$ max.		at (10kOhm // 10pF) $\pm 5\%$
/ Frequency ageing	f_{age}	$\pm 1.0 \times 10^{-6}$ max.		1 year , at 25 °C
Frequency control range	f_{cont}	---	± 3 to $\pm 5 \times 10^{-6}$	Vc=1.5V ± 1.0 V , Positive polarity

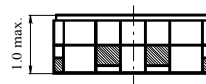
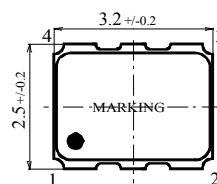
NOTE 1) DC-cut capacitor of output is not put in TCXO. Please add DC-cut capacitor (1,000pF) in oscillator output line.

◆ Phase Noise

Frequency Offset (Hz)	Phase Noise (dBc/Hz)
100	-110 typ.
1k	-130 typ.
10k	-145 typ.
100k	-145 typ.

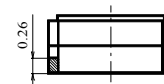
at $f_0=24.5535\text{MHz}$ (25 $\pm 2^\circ\text{C}$)

◆ Outline

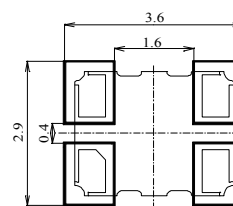
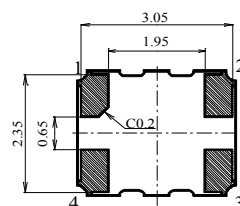


Pin Connections

1. Vc (VSH)
GND or NC (NSH)
2. GND
3. OUTPUT
4. Vcc



Recommended land pattern (Top View)



unit : (mm)

Products with specific requirements are available upon request.