

Package : TTS18NSH / TTS18VSH

Low Voltage high precision Temperature Compensated Crystal Oscillator (TCXO / VC-TCXO)

◆ Feature

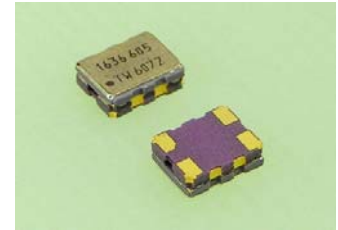
Reflow solderable, Ceramic SMD package base offers superior flatness.

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

and low Current consumption type.

available.Low Frequency available using built in 1/2 frequency divide down

function.RoHS compliant.



◆ Applications Cell phone, Base station, GPS, and mobile radio application

◆ Specifications

Note : Modified specifications are available upon request for specific applications.

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	NOTE 2) 1.5 mA 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 , at Vc=+1.4V
/ 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}	---	± 3 to $\pm 5 \times 10^{-6}$	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.

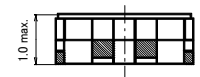
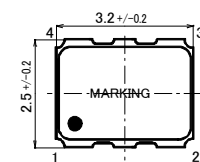
NOTE 2) at $f_0=26.000\text{MHz}$

◆ Phase Noise

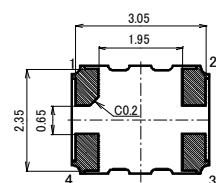
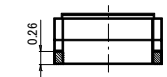
Frequency Offset (Hz)	Phase Noise (dBc/Hz)
100	-110 typ.
1k	-130 typ.
10k	-145 typ.
100k	-145 typ.

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

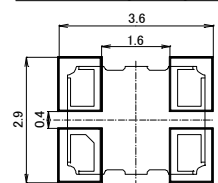
◆ Outline



Pin connections
 1. Vc (VSH)
 2. GND (NSH)
 3. OUTPUT
 4. Vcc



Recommended land pattern(Top View)



unit (mm)

The ordering number will be obtained separately by customer's requirement.

TEW AMERICA, INC.,

<http://www.tewamerica.com>

Specifications subject to change without notice. Jan / 2011