

TTS18NSE / VSE

Temperature Compensated Crystal Oscillator (TCXO)

◆ Feature

Reflow solderable, Ceramic SMD package base offers superior flatness.

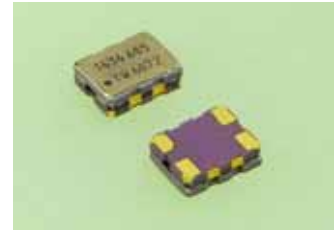
Ultra-compact (3.2×2.5), lowest height, light weight,

and low Current consumption type.

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

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

RoHS compliant.



◆ Specifications

Item	Symbol	Specifications		Conditions
		TTS18NSE (TCXO)	TTS18VSE(VC-TCXO)	
Output frequency	f_0	10.0 MHz to 40.0 MHz		
Supply voltage	V _{cc}	+2.3V to +3.6V		
Current consumption	I _{cc}	NOTE 2) 2.0 mA max.		at V _{cc} =+3.0V, 10 kOhm//10 pF
Output voltage	V _{pp}	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-T_C}	$\pm 2.0 \times 10^{-6}$ max.		-30 °C to +85 °C, at V _c =+1.5V
/ voltage coefficient	$f_{0-V_{cc}}$	$\pm 0.2 \times 10^{-6}$ max.		at V _{cc} =+3.0 ± 5%
/ load coefficient	f_{0-Load}	$\pm 0.2 \times 10^{-6}$ max.		at (10kOhm // 10pF) ± 10%
/ Frequency ageing	f_{age}	NOTE 2) $\pm 1.0 \times 10^{-6}$ max.		1 year, at +25 °C
Frequency controlled range	f_{cont}	---	± 5 to $\pm 15 \times 10^{-6}$	V _c =+1.5V±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.

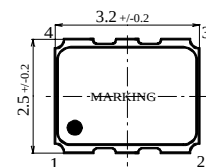
NOTE 2) at $f_0=26.000\text{MHz}$

◆ Phase Noise

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

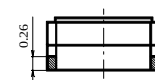
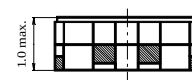
at $f_0=26.000\text{MHz}$ (25±2°C)

◆ Outline

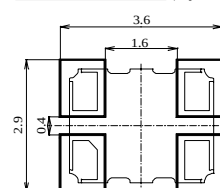
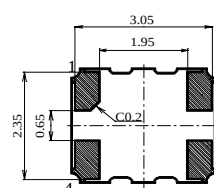


Pin Connections

1. V_c (VSE)
GND (NSE)
2. GND
3. OUTPUT
4. V_{cc}



Recommended land pattern (Top View)



unit : mm

Products with specific requirements are available upon request.

TW TOKYO DENPA CO., LTD.

<http://www.tew.co.jp>