

TTS14NSB / TTS14VSB-A8 => XTCLH-J / XTCLH-E

**High Precision
 (Voltage Controlled) Temperature Compensated Crystal Oscillator**

Features

Reflow solderable, ceramic SMD package base offers superior flatness.
 Ultra-compact (5.0 x 3.2), lowest height, light weight and low current consumption type. RoHS compliant.

Applications

cell phone, base station, GPS and mobile radio

Specifications

Item	Symbol	Specifications		Conditions
		TTS14NS_series (TCXO)	TTS14VS Series (VC-TCXO)	
Output frequency	f_0	10.0 MHz to 40.0 MHz		
Supply voltage	Vcc	+2.4V to 5.5V		
Current consumption	Icc	2.0 mA max.		Ccc=3.0V , 10 kOhm//10 pF
Output voltage	Vpp	0.8V min.		NOTE1)DC coupling
Load	Load_R,C	10kOhm // 10 pF		
Frequency stability				
/ Frequency tolerance	f_{tol}	$\pm 1.0 \times 10^{-6}$ max.		after reflow, at 25 °C
/ Temperature	f_{0_Tc}	$\geq \pm 0.5 - 5.0 \times 10^{-6}$ 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 aging	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 \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.

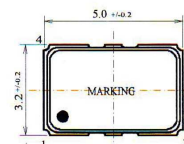
Phase Noise

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

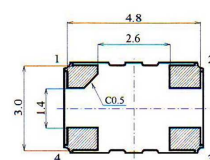
at $f_0=24.5535\text{MHz}$ (25 \pm 2°C)

*Please consult us for customized specifications.

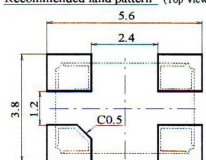
◆ Outline



Pin Connections
 1: Vc (VSB)
 GND(NSB)
 2: GND
 3: OUTPUT
 4: Vcc



Recommended land pattern (Top View)



unit (mm)