

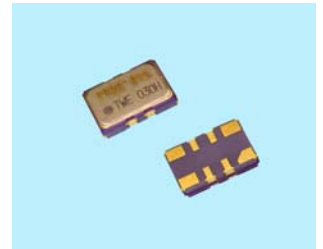
New product

TTS14N/VSH, TTS14N/VSH-E, TTS14N/VSH-F

High Stability - Temperature Compensated Crystal Oscillator (HS – TCXO)

◆ Feature

- Reflow solderable, Ceramic SMD package base offers superior flatness.
- Ultra-compact (5.0×3.2), lowest height(1.5max.), light weight, and low Current consumption type.
- High Frequency Stability and High Precision Frequency temperature characteristics.
- RoHS compliant.
- The output by the E/D function can be stopped.
- The phase noise reduction with an external capacitor is possible.



◆ Specifications

Item	Symbol	Specifications	Conditions
		TTS14N/VSH, TTS14N/VSH-E, TTS14N/VSH-F	
Output Frequency	f_0	10.0MHz to 52.0MHz	
Supply Voltage	Vcc	+2.7V to +5.5V	10kohm//10pF
Current Consumption	Icc	2.4mA max. ¹⁾	Vcc=+3.3V
Output Voltage	Vpp	0.8Vp-p min. ²⁾	Clipped Sine Wave
Load	Load	10kohm//10pF	
/Frequency Tolerance	f_{0_tol}	$\pm 1.5 \times 10^{-6}$ max.	After reflow, at +25°C
/Temperature Characteristic	$f_{_Tc}$	$\pm 0.20 \times 10^{-6}$ max. / $\pm 0.10 \times 10^{-6}$ max.	-40 to +85°C / -10 to +70°C
/Voltage Coefficient	$f_{_Vcc}$	$\pm 0.05 \times 10^{-6}$ max. ¹⁾	at Vcc $\pm 5\%$, Load $\pm 10\%$
/Load Coefficient	$f_{_Load}$		
/Frequency Ageing	$f_{_age}$	$\pm 0.5 \times 10^{-6}$ max. ¹⁾³⁾	1 year, at +25°C
Frequency Controlled Range	$f_{_cont}$	N:- / V: $\pm 3 \times 10^{-6}$ to $\pm 15 \times 10^{-6}$	VC=+1.5V $\pm 1.0V$, Positive polarity

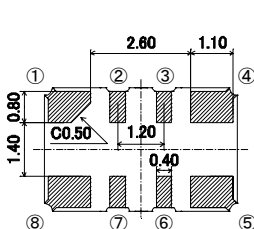
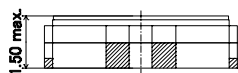
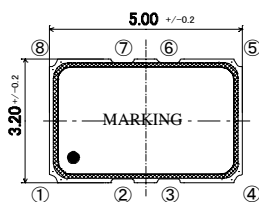
NOTE 1) at $f_0=19.200\text{MHz}$

NOTE 2) DC-cut capacitor of output is not put in TCXO. Please add DC-cut capacitor in oscillator output line.

NOTE 3) target value

Products with specific requirements are available upon request.

◆ Outline



Pin Connections

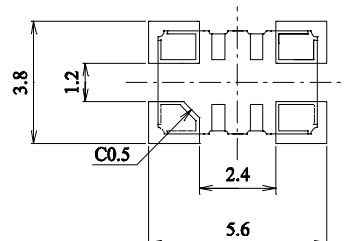
- ① VC (VSH/VCH) / GND (NSH/NCH) (*1)
- ② NC
- ③ NC
- ④ GND
- ⑤ Clipped Sine OUTPUT(V/NSH)/ CMOS OUTPUT(V/NCH) (*1)
- ⑥ Enable/Disable (*2)
- ⑦ connect to external capacitor / NC (*3)
- ⑧ Vcc

*1 Please Choose either
*2 Please connected to Vcc or unconnected if not required
*3 The filter of the temperature compensation voltage is available by connecting 0.033uF capacitor. Please Choose either.

◆ Land Pattern

4 Land Pattern

TOP VIEW



8 Land Pattern

