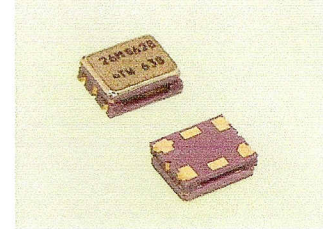


TTS27NSH / VSH

Low Voltage high precision Temperature Compensated Crystal Oscillator (TCXO)

◆ Feature

- Reflow solderable, Ceramic SMD package base offers superior flatness.
- Ultra-compact (2.5×2.0), lowest height, light weight, and low Current consumption type.
- Low supply voltage (Vcc=1.7V min) available.
- Low Frequency available using built in 1/2 frequency divide down function.
- Suitable for Cell phone, Base station, GPS, and mobile radio application.
- RoHS compliant.



◆ Specifications

Item	Symbol	Specifications		Conditions
		TTS27NSH (TCXO)	TTS27VSH(VC-TCXO)	
Output frequency	f_0	10.0 MHz to 52.0 MHz		
Supply voltage	Vcc	+1.7V to +3.3V		
Current consumption	Icc	NOTE 2) 1.5 mA max.		at Vcc=+1.8V, 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=+0.9V
/ voltage coefficient	f_{0_Vcc}	$\pm 0.2 \times 10^{-6}$ max.		at Vcc=+1.8V \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=+0.9V \pm 0.6V, 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.

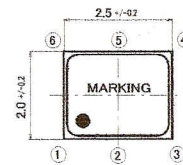
NOTE 2) at $f_0=26.000$ MHz

◆ Phase Noise

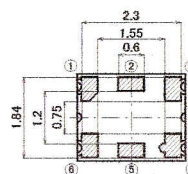
Frequency Offset (Hz)	Phase Noise (dBc/Hz)
100	-110 typ.
1k	-130 typ.
10k	-145 typ.
100k	-145 typ.

at $f_0=26.000$ MHz (25 \pm 2°C)

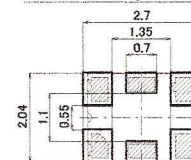
◆ Outline



- Pin Connections
- 1 : Vc (VSH)
NC or GND (NSH)
 - 2 : NC or GND
 - 3 : GND
 - 4 : OUT
 - 5 : NC or GND
 - 6 : Vcc



Recommended land pattern (Top View)



unit (mm)

Products with specific requirements are available upon request.