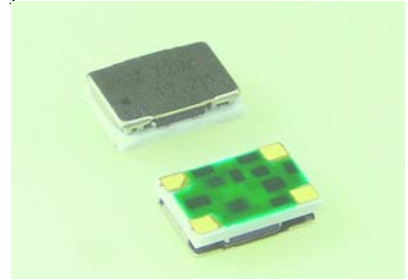


# Package : TTS15NS / TTS15VS

## Temperature Compensated Crystal Oscillator (TCXO / VC-TCXO)

### ◆ Feature

Discrete custom designed oscillator in small package.  
 Available with low phase noise , low current Consumption ,  
 high frequency range , low voltage.  
 Reflow Solderable and superior flatness. RoHS compliant.



### ◆ Applications

Cell phone, Base station, GPS, wireless video

### ◆ Specifications

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

Item	Symbol	Specifications		Conditions
		TTS15NS (TCXO)	TTS15VS (VC-TCXO)	
Output frequency	$f_0$	13.0 MHz to 50.0 MHz		
Supply voltage	Vcc	+2.0V to +5.0 V $\pm$ 5%		
Current consumption	Icc	2.0 mA max		Vcc=3.0V , 10 kOhm//10 pF
Output voltage	Vpp	0.8V min.		NOTE 1) DC coupling
Load	Load_R,C	10 kOhm // 10 pF		
Frequency Stability				
/Frequency tolerance	$f_{tol}$	$\pm 1.5 \times 10^{-6}$ max.		After reflow , at 25 °C
/ temperature characteristics	$f_{0\_TC}$	$\pm 2.5 \times 10^{-6}$ max.		-20 °C to +75 °C
/ voltage coefficient	$f_{0\_Vcc}$	$\pm 0.5 \times 10^{-6}$ max.		at 3.0V $\pm$ 5%
/load coefficient	$f_{0\_Load}$	$\pm 0.5 \times 10^{-6}$ max.		at (10kOhm // 10pF) $\pm$ 5%
/ Frequency ageing	$f_{age}$	$\pm 1.0 \times 10^{-6}$ max.		1 year , at 25 °C
Frequency control range	$f_{cont}$	---	$\pm 5$ to $\pm 15 \times 10^{-6}$	Vc=1.5V $\pm$ 1.0V , Positive polarity

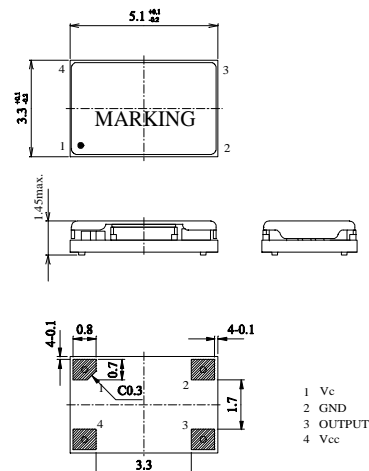
NOTE 1) DC-cut capacitor of output is not put in TCXO. Please add DC-cut capacitor (1,000pF) in oscillator output line.

### ◆ Phase Noise

Frequency Offset (Hz)	Phase Noise (dBc/Hz)
100	-120 typ.
1k	-140 typ.
10k	-145 typ.
100k	-145 typ.

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

### ◆ Outline



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

**TEW** TEW AMERICA, INC.,

<http://www.tewamerica.com>

Specifications subject to change without notice. Jan / 2011