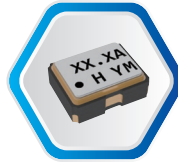




# HSA211S SERIES

CRYSTAL OSCILLATOR, VC-TCXO

✓ RoHS Compliant    ✓ Pb Free



## STANDARD SPECIFICATION

Items		Parameter
Frequency Range		13 ~ 52MHz
Supply Voltage		1.8 ~ 3.3 V
Current Consumption		1.5 mA Max. ( $f \leq 26\text{MHz}$ ) / +2.0mA Max. ( $26 < f \leq 52\text{MHz}$ )
Harmonics		- 5 dBc Max.
Output Level		0.8 Vp-p Min.
Output Load		10K $\Omega$ // 10pF
Frequency Stability	Tolerance	$\pm 1.5$ ppm Max. (After 2 times reflow )
	vs Temperature	$\pm 0.5$ ppm Max. / -30 ~ +85°C
	vs Slope	$\pm 0.2$ ppm/°C Max. (-30 ~ +85°C)
	vs Supply Voltage	$\pm 0.2$ ppm Max. ( $v_{dd} \pm 5\%$ )
	vs Load Variation	$\pm 0.2$ ppm Max. (10K $\Omega$ //10pF $\pm 10\%$ )
Start Up		2.0 ms Max.

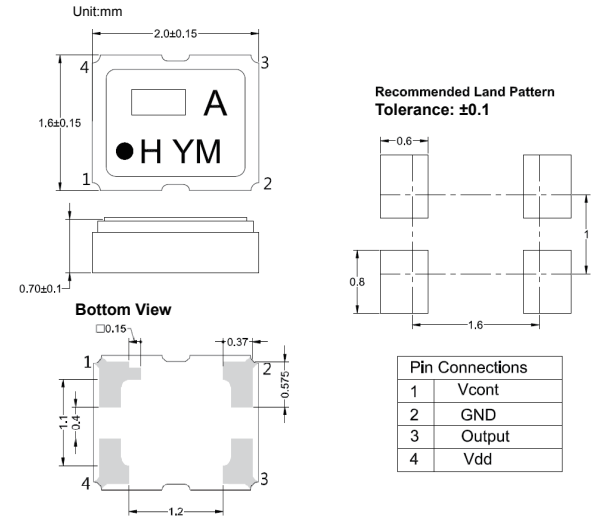
## PHASE NOISE ( FREQUENCY vs OFFSET)

	1kHz	10kHz	100kHz
$f \leq 26\text{MHz}$	-130 dBc/ Hz	-150 dBc/ Hz	-155 dBc/ Hz
$26\text{MHz} < f \leq 40\text{MHz}$	-130 dBc/ Hz	-150 dBc/ Hz	-155 dBc/ Hz
$40\text{MHz} < f \leq 52\text{MHz}$	-125 dBc/ Hz	-145 dBc/ Hz	-150 dBc/ Hz

\*For other specification, please contact us.

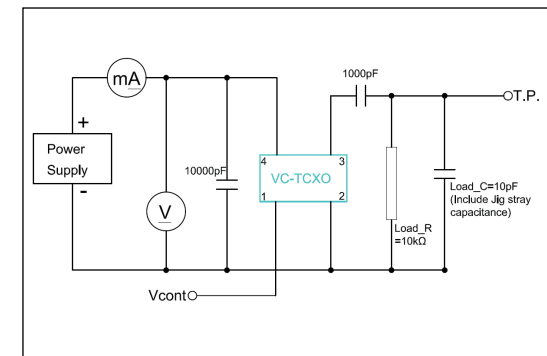
Packing Unit : 3,000pcs/Reel.

## DIMENSION



## TEST CIRCUIT AND OUTPUT WAVEFORM

Measurement Circuit



Actual Size