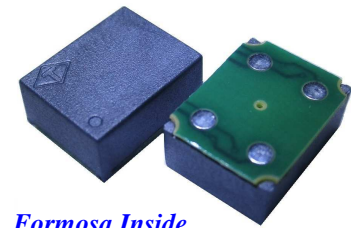


# NN-Type

## 9.7 x 7.5 x 4.1 mm "Formosa" Oven Controlled Crystal Oscillator

### FEATURES

- Taitien's patented "Formosa" ASIC technology
- Dimension 9.7 x 7.5 mm, miniaturized 4-Pad SMD package
- Low Power Consumption.
- $\pm 20$  ppb stability over -40 to 85°C
- Stratum 3 (Overall  $\pm 4.6$  ppm including 20 years aging)



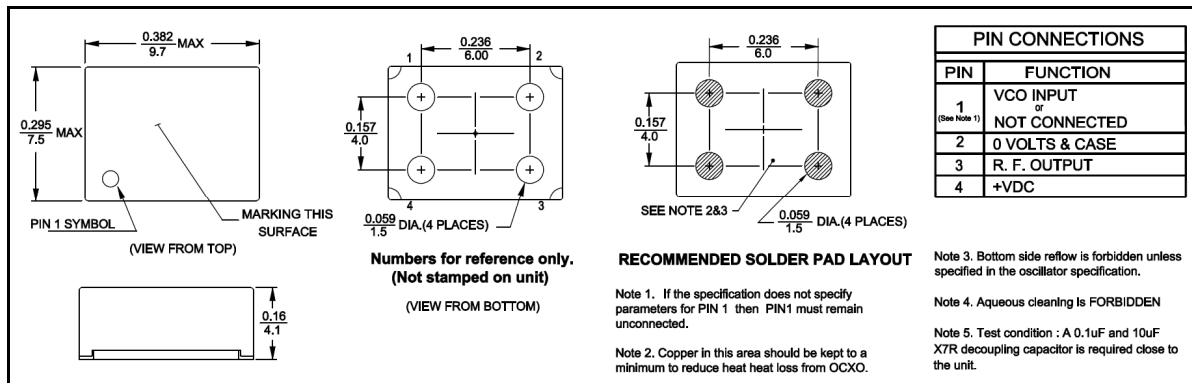
Formosa Inside

RoHS Compliant

### TYPICAL APPLICATIONS

- Small Cell, Portable Telecommunication Device
- Test and Instrumentation
- Synthesizer, Digital switch, Reference Timing Circuit
- Packet Timing Protocol (e.g. IEEE-1588)

### DIMENSION



### ELECTRICAL SPECIFICATION

Parameter	Min.	Typ.	Max.	Unit	Test Condition & Notes
<b>Output</b> Frequency	10		40	MHz	Available frequency range is from 10MHz to 40MHz. Standard Frequencies : 10, 12.8, 19.2, 20, 25 and 30.72MHz.
Wave Form		Rectangular Clipped Sine			Please contact us for detail information
Level					
"1"Level	2.4			V	
"0"Level					
Duty cycle	45	50	55	%	@+1.65 V
	0.8			V <sub>P-P</sub>	
Load(Rectangular/Clipped Sine)	15pF / 10Kohm//10pF				
Spurious			-60	dBc	
<b>Frequency Stability</b> Ambient	-20		+20	ppb	-40 °C to +85 °C, referenced to (F <sub>max</sub> + F <sub>min</sub> )/2. Refer to Table : Freq.Stability vs Temp. Range.
Aging					
Daily	-3.0		+3.0	ppb	after 30 days continues operation
Yearly	-0.6		+0.6	ppm	
10 years	-3.0		+3.0	ppm	
Voltage	-5		+5	ppb	$\pm 5\%$ Change
Warm-up	-0.1		+0.1	ppm	In 5 minutes @ +25 °C, referenced to 1 hour
Phase Noise (20MHz)		-98	-92	dBc/Hz	@ 10Hz
		-126	-120		@ 100Hz
		-145	-140		@ 1KHz
		-152	-150		@ 10KHz
<b>Electrical Frequency Adjustment</b>					
Range	5.0		-5.0	ppm	VCO @ 0V VCO @ 3.3V
Control	0	1.65	3.3	V	
Slope		Positive			
Input Impedance	100			Kohm	
<b>Input Power</b> Voltage	3.135	3.3	3.465	V	5.0V Input voltage is available. Please contact us for detail information.
Current			350	mA	@ turn on
Steady state		0.3	0.4	W	@ +25 °C

### FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppb	$\pm 5$	$\pm 10$	$\pm 20$	$\pm 30$	$\pm 50$
-20 ~ +70		△	○	○	○	○
-40 ~ +85		X	△	○	○	○

O: Available △:Conditional X: Not available

Note: not all combination of options are available. Other specifications may be available upon request.