

NN Type

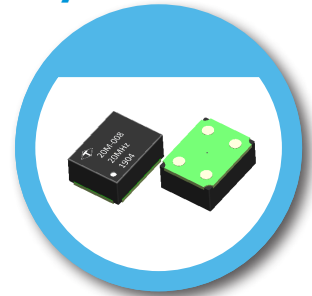
9.7 x 7.5 x 4.1mm "Formosa" Oven Controlled Crystal Oscillator

FEATURE

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

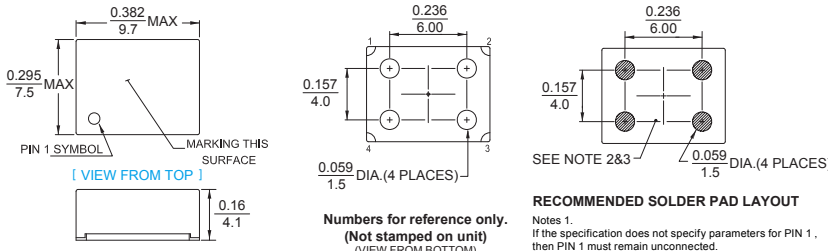
TYPICAL APPLICATION

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



RoHS Compliant
Formosa Inside

DIMENSION



Dimensions:
 Top View: 0.382 MAX, 9.7 MAX, 0.295 MAX, 7.5 MAX
 Bottom View: 0.236, 6.00, 0.157, 4.0, 0.059 DIA. (4 PLACES), 1.5
 Side View: 0.16, 4.1
 Pin Spacing: 0.236, 6.00, 0.157, 4.0, 0.059 DIA. (4 PLACES), 1.5

RECOMMENDED SOLDER PAD LAYOUT

Notes 1. If the specification does not specify parameters for PIN 1, then PIN 1 must remain unconnected.
 Notes 2. Copper in this area should be kept to a minimum to reduce heat loss from OCXO.

PIN CONNECTIONS	
PIN	FUNCTION
1	VCO INPUT or NOT CONNECTED (See NOTE 1)
2	0 VOLTS AND CASE
4	R.F. OUTPUT
5	+VDC

Notes 3. Bottom side reflow is forbidden unless specified in oscillator specification.
 Notes 4. Aqueous cleaning is FORBIDDEN
 Notes 5. Test condition: A 0.1uF and 10uF X7R decoupling capacitor is required close to the unit.

ELECTRICAL SPECIFICATION

Parameter	Min.	Typ.	Max.	Unit	
Output Frequency	10	—	40	MHz	Available frequency range is from 10MHz to 40MHz. Standard frequencies are 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	—	—	0.4		
Duty Cycle	45	50	55	%	@+1.65 V
Clipped Sine	0.8	—	—	V _{p-p}	
Load (Rectangular/Clipped Sine)	15pF / 10Kohm/10pF				
Spurious	—	—	-60	dBc	
Frequency Stability Ambient	-20	—	+20	ppb	-40°C to +85°C, referenced to (F _{max} + F _{min})/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		
Voltage	-5	—	+5	ppb	±5% Change
Warm-up	-0.1	—	+0.1	ppm	In 5 minutes @ +25°C, referenced to 1 hour
Phase Noise @ 20 MHz	—	-98	-92	dBc/Hz	@ 10 Hz
	—	-126	-120		@ 100 Hz
	—	-145	-140		@ 1 kHz
	—	-152	-150		@ 10 kHz
Electrical Frequency Adjustment	—	—	—		
Range	—	—	-5.0	ppm	VCO@ 0V
Control	0	1.65	3.3	V	VCO@ 3.3V
Slope	—	Positive	—		
Input impedance	100	—	—	Kohm	
Input Power 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	±5	±10	±20	±30	±50
-20 ~ +70	△	○	○	○	○	○
-40 ~ +85	X	△	○	○	○	○

* ○: Available △:Conditional X: Not available

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