

# O F Type

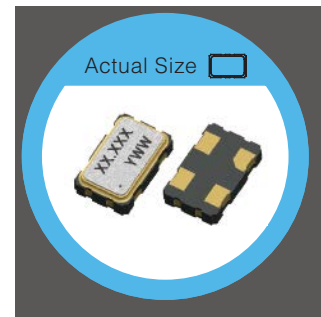
## 5.0 x 3.2 mm SMD Crystal Oscillator

### FEATURE

- Typical 5.0 x 3.2 x 1.2 mm ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Realize the standby function with Tri-State

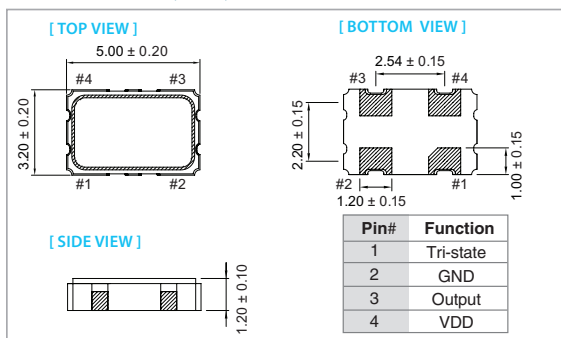
### TYPICAL APPLICATION

- GPS, Mobile Phone
- WLAN, Wireless, Fiber/10Gbit Ethernet
- Notebook, PDA, DSC

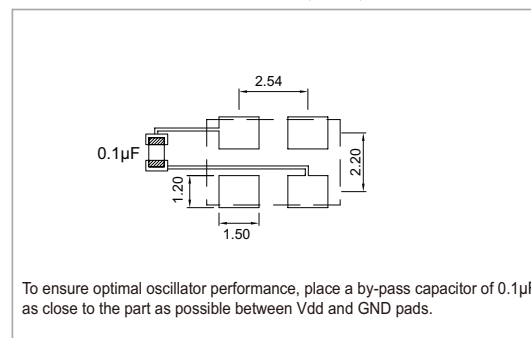


RoHS Compliant

### DIMENSION (mm)



### SOLDER PAD LAYOUT (mm)



### ELECTRICAL SPECIFICATION

Parameter	3.3V		2.5V		1.8V		unit				
	Min.	Max.	Min.	Max.	Min.	Max.					
Supply Voltage Variation(VDD)	VDD-10%	VDD+10%	VDD-10%	VDD+10%	VDD-10%	VDD+10%	V				
Frequency Range	0.0137	160	0.0137	160	0.0137	135	MHz				
Supply Frequency	2.048, 25, 26, 27, 50, 66.667, 100, 125						MHz				
Supply Current								mA			
13.7 kHz ≤ Fo ≤ 93 kHz									1	1	1
0.3125 MHz ≤ Fo < 50 MHz (A1)									10	8	7
40 MHz ≤ Fo < 75 MHz									20	18	15
75 MHz ≤ Fo < 135 MHz									35	30	25
135 MHz ≤ Fo	45	40	-								
Output Level (CMOS) Output High (Logic "1")	2.97	-	2.25	-	1.62	-	V				
Output Low (Logic "0")	-	0.33	-	0.25	-	0.18					
Transition Time: Rise/Fall Time								nSec			
13.7 kHz ≤ Fo ≤ 93 kHz									50	50	50
0.3125 MHz ≤ Fo < 100 MHz									5	5	5
100 MHz ≤ Fo	3	3	3								
Start Time	-	5	-	5	-	5	mSec				
Output Drive Capability (CL)	-	15	-	15	-	15	pF				
Tri-State (Input to Pin 1)								V			
Enable (High voltage or floating)									2.31	-	1.75
Disable (Low voltage or GND)	-	0.99	-	0.75	-	0.54					
Period Jitter(Pk-Pk)	-	40	-	40	-	40	pSec				
RMS Phase Jitter (Integrated 12 kHz-20 MHz)	-	1	-	1	-	1	pSec				
Standby Current	-	10	-	10	-	10	µA				
Aging (@ 25°C 1st year)	-	±3	-	±3	-	±3	ppm				
Storage Temp. Range	-55	125	-55	125	-55	125	°C				

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.  
 + Transition times are measured between 10% and 90% of VDD, with an output load of 15pF.

### FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppm		
	±20	±25	±50
-10 ~ +60	○	○	○
-20 ~ +70	△	○	○
-40 ~ +85	△	○	○
-40 ~ +125	×	×	○

\* ○ : Available △ : Conditional X : Not available

\* Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1<sup>st</sup> year), shock, and vibration

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