

# OX Type

## 3.2 x 2.5 mm SMD Crystal Oscillator

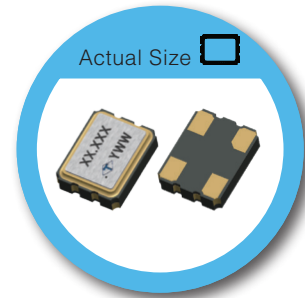
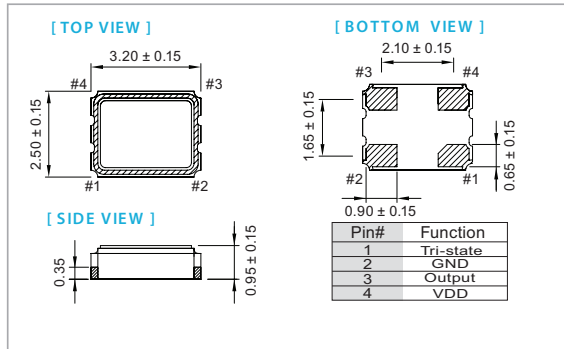
### FEATURE

- Conforms to AEC-Q200
- Typical 3.2 x 2.5 x 0.95mm Ceramic SMD Package
- Tight Symmetry (45 to 55%) Available
- Operation Voltage: 1.8V, 2.5V, 3.3V
- Tri-State Enable/Disable

### TYPICAL APPLICATION

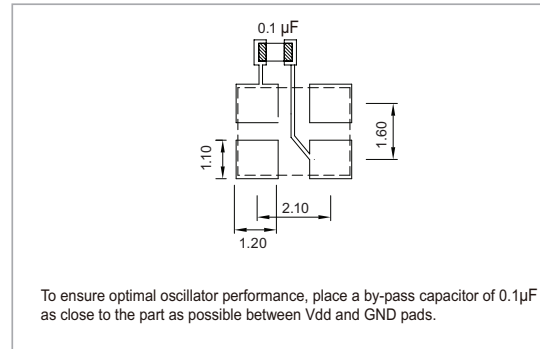
- WLAN/WiMAX
- Mobile Phone
- DSC, Set-Top Box, HDTV

### DIMENSION (mm)



RoHS Compliant

### SOLDER PAD LAYOUT (mm)



### ELECTRICAL SPECIFICATION

Parameter	3.3V		2.5V		1.8V		Unit		
	Min.	Max.	Min.	Max.	Min.	Max.			
Supply Voltage Variation (V <sub>DD</sub> )	V <sub>DD</sub> -5%	V <sub>DD</sub> +5%	V <sub>DD</sub> -5%	V <sub>DD</sub> +5%	V <sub>DD</sub> -5%	V <sub>DD</sub> +5%	V		
Frequency Range	1.25	125	1.25	125	1.25	125	MHz		
Standard Frequency	24, 26, 30, 40						MHz		
Supply Current	At 15pF Load		-	15	-	10	-	7	mA
	No Load Condition, 1.25MHz ≤ F <sub>o</sub> < 10MHz		-	1.5	-	1.5	-	1.2	mA
	No Load Condition, 10MHz ≤ F <sub>o</sub> < 20MHz		-	2	-	2	-	1.5	mA
	No Load Condition, 20MHz ≤ F <sub>o</sub> < 80MHz		-	3	-	2.5	-	1.5	mA
	No Load Condition, 80MHz ≤ F <sub>o</sub> < 125MHz		-	8	-	7	-	5	mA
Duty Cycle	45	55	45	55	45	55	55	%	
Output Level	Output High		2.97	-	2.25	-	1.62	-	V
	Output Low		-	0.33	-	0.25	-	0.18	V
Transition Time: Rise / Fall Time*	1.25MHz ≤ F <sub>o</sub> < 10MHz		-	3	-	4	-	5	nSec
	10MHz ≤ F <sub>o</sub> < 20MHz		-	3	-	3	-	4	nSec
	20MHz ≤ F <sub>o</sub> < 80MHz		-	3	-	3	-	4	nSec
	80MHz ≤ F <sub>o</sub> < 125MHz		-	3	-	3	-	4	nSec
Startup Time	-	2	-	2	-	2	-	2	mSec
Tri-State (Input to Pin 1)	Enable (High Voltage or Floating)		2.31	-	1.75	-	1.26	-	V
	Disable (Low Voltage or GND)		-	0.99	-	0.75	-	0.54	V
Output Loading	15		15		15			pF	
Stand by Current (@-40°C to 85°C)	-	10	-	10	-	10		µA	
Stand by Current (@-40°C to 125°C)	-	20	-	20	-	20		µA	
Period Jitter (Pk-Pk)	-	40	-	40	-	40		pSec	
RMS Phase Jitter (12kHz to 20MHz)	-	1	-	1	-	1		pSec	
Aging (@ 25°C, 1 <sup>st</sup> 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 V<sub>DD</sub> with an output load of 15pF

### FREQ. STABILITY vs. TEMP. RANGE

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

\* O: 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 load variation

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