

Enhanced Stability Crystal Oscillator

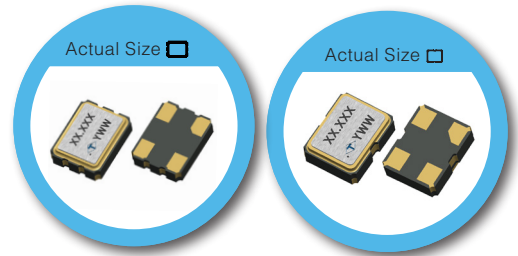
OX-A/OY-A Series-3.2 X 2.5 / 2.5 X 2.0 mm SMD Crystal Oscillator

FEATURE

- Tight Tolerance: ±5 ppm accuracy @25°C, ±5 ppm over -40°C to +85°C
- LVCMOS Output Logic
- Tight symmetry (45 to 55%) available.
- Operation voltage: 1.8V, 2.5V, 3.3V.
- Tri-state enable/disable.
- Femto second phase jitter and -152dBc/Hz at 10kHz offset.

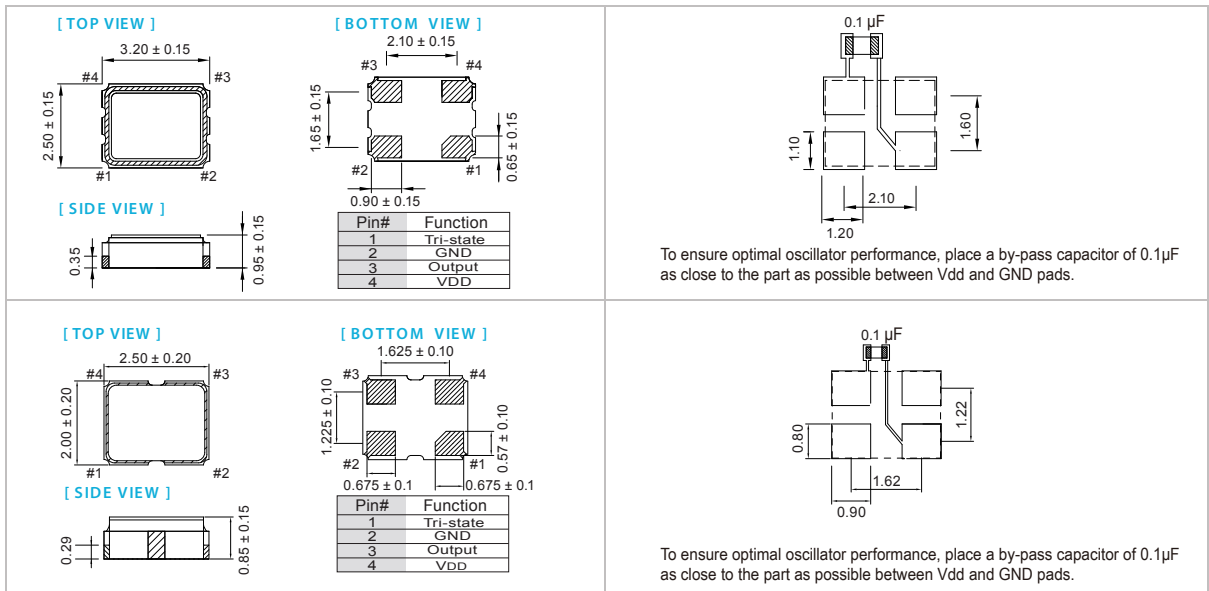
TYPICAL APPLICATION

- Wireless Connectivity
- Video Distribution



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 (V _{DD})	V _{DD} -10%	V _{DD} +10%	V _{DD} -10%	V _{DD} +10%	V _{DD} -10%	V _{DD} +10%	V
Frequency Range	19	60	19	60	19	60	MHz
Supply Current	19 ≤ I _{FO} ≤ 60 MHz						
Duty Cycle	45	55	45	55	45	55	%
Output Level (CMOS)	Output High (Logic "1")		Output High (Logic "1")		Output High (Logic "1")		V
	2.97	-	2.25	-	1.62	-	
	Output Low (Logic "0")		Output Low (Logic "0")		Output Low (Logic "0")		
	-	0.33	-	0.25	-	0.18	
Transition Time: Rise/Fall Time+	-	8	-	8	-	8	nSec
Start Time	-	5	-	5	-	5	mSec
Tri-State(Input to Pin 1)	Enable (High voltage or floating)		Enable (High voltage or floating)		Enable (High voltage or floating)		V
	2.31	-	1.75	-	1.26	-	
	Disable (Low voltage or GND)		Disable (Low voltage or GND)		Disable (Low voltage or GND)		
	-	0.99	-	0.75	-	0.54	
RMS Phase Jitter (integrated 12 kHz ~ 20 MHz)	-	1	-	1	-	1	pSec
Phase Noise @ 26 MHz	10 Hz		10 Hz		10 Hz		dBc/Hz
	-90		-90		-90		
	100 Hz		100 Hz		100 Hz		
	-115		-115		-115		
	1 kHz		1 kHz		1 kHz		dBc/Hz
	-136		-136		-136		
	10 kHz		10 kHz		10 kHz		dBc/Hz
	-152		-152		-152		
Aging (@25°C 1st year)	-	±1	-	±1	-	±1	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_{DD}, with an output load of 15pF

FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppm		
	±5	±10	±15
-10 ~ +60	○	○	○
-20 ~ +70	△	○	○
-40 ~ +85	×	○	○
-40 ~ +105	×	△	○

* O: Available △: Conditional X: Not available

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

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