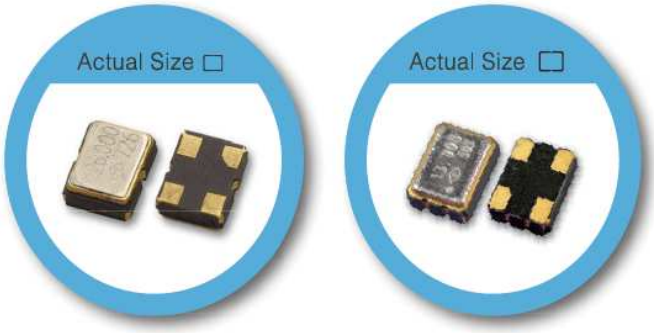
Ultra Low Noise Crystal Oscillator

OX-U/OY-U Series - 3.2 x 2.5 / 2.5 x 2.0 mm SMD Crystal Oscillator

TAITIEN
Our Performance, Your Reputation

FEATURE

- Ultra Low Phase Noise designed specifically for Hi-Resolution Audio (HiFi, HD Audio)
- F=45.1584MHz (@1.8V, 25°C): typical low close-in phase noise of -100dBc/Hz@10Hz-offset, -127dBc/Hz@100Hz-offset, and a noise floor of -157dBc/Hz
- F=49.152MHz (@1.8V, 25°C): typical low close-in phase noise of -100dBc/Hz@10Hz-offset, -128dBc/Hz@100Hz-offset, and a noise floor of -157dBc/Hz
- Wide operating temperature range: -40 to +105°C

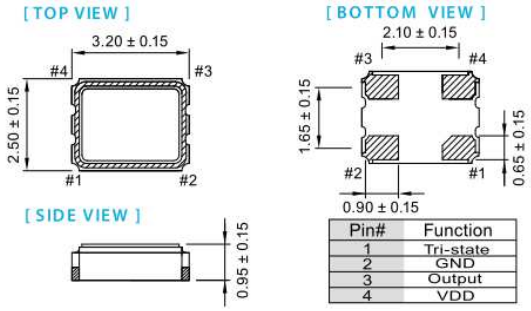


TYPICAL APPLICATION

- Automotive multimedia, Automotive radar
- DACs and ADCs for Hi-Fi, Digital Audio Broadcasting (DAB), Professional audio equipment
- Smartphone, Tablet, Wireless module

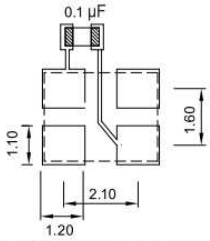
RoHS Compliant

DIMENSION (mm)

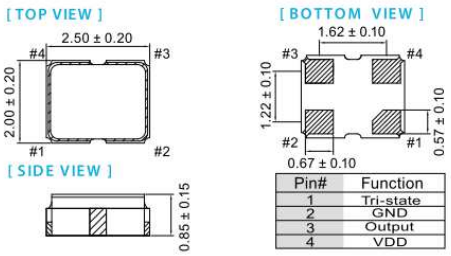


Pin#	Function
1	Tri-state
2	GND
3	Output
4	VDD

SOLDER PAD LAYOUT (mm)



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1µF as close to the part as possible between Vdd and GND pads.



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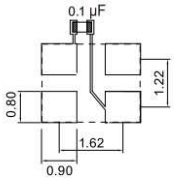

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ELECTRICAL SPECIFICATION

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		20	60	20	60	20	60	MHz
Supply Current	**20 ≤ Fo ≤ 60MHz**	--	8	--	7	--	5	mA
Duty Cycle		45	55	45	55	45	55	%
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+			6		6		6	nSec
Start Time			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	
RMS Phase Jitter (integrated 12kHz ~ 20MHz)			0.5		0.5		0.5	pSec
Aging (@25°C, 1st year)			±3		±3		±3	ppm
Storage Temp. Range		-55	125	-55	125	-55	125	°C
Phase Noise (Typ.)		F=20MHz		F=40MHz		F=60MHz		dBc/Hz
1.8V,25°C	**1 kHz offset**	-147		-143		-139		dBc/Hz
	100 kHz offset	-156		-154		-150		dBc/Hz
2.5 to 3.3V, 25°C	**1 kHz offset**	-151		-148		-142		dBc/Hz
	100 kHz offset	-157		-156		-156		dBc/Hz

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	±30	±50
-10~+60	O	O	O	O
-20~+70	△	O	O	O
-40~+85	X	O	O	O
-40~+105	X	X	△	O

* 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.

Specifications subject to change without notice

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