

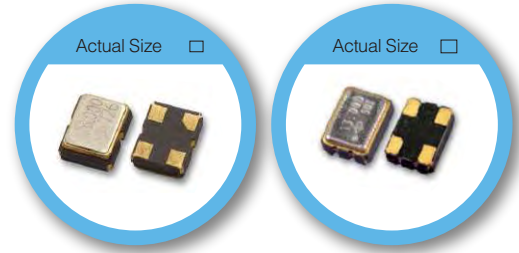
Extended Operating Temperature Range Crystal Oscillator OX/OY Series 3.2 x 2.5 / 2.5 x 2.0 mm SMD Crystal Oscillator

FEATURE

- Extended Industrial Operating Temperature Range -55°C ~ +125°C.
- Low jitter and phase noise(25ps Pk-Pk Period jitter, typical)
- Tight symmetry (45 to 55%) available.
- Operation voltage : 1.8V, 2.5V, 3.3V.
- Tri-state enable/disable.

TYPICAL APPLICATION

- Extreme environment applications.
- Oil drilling, geothermal.
- Commercial space, car/aircraft engine, aerospace & military.
- Industrial instrumentation.
- Automotive.



RoHS Compliant

DIMENSION (mm)

SOLDER PAD LAYOUT (mm)

<p>[TOP VIEW]</p> <p>[SIDE VIEW]</p> <p>[BOTTOM VIEW]</p> <table border="1"> <thead> <tr> <th>Pin#</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Tri-state</td> </tr> <tr> <td>2</td> <td>GND</td> </tr> <tr> <td>3</td> <td>Output</td> </tr> <tr> <td>4</td> <td>VDD</td> </tr> </tbody> </table>	Pin#	Function	1	Tri-state	2	GND	3	Output	4	VDD	<p>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.</p>
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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	1.25	100	1.25	100	1.25	100	MHz
Supply Current	Fo ≤ 80 MHz		Fo > 80 MHz		Fo > 80 MHz		mA
	--	10	--	8	--	5	
	--	15	--	10	--	8	
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+	--	3	--	4	--	5	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	
Period Jitter(pk-pk)	--	40	--	40	--	40	pSec
RMS Phase Jitter (integrated 12kHz ~ 20MHz)	--	1	--	1	--	1	pSec
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	±30	±40	±50	±100
		○	○	○	○
-40~+85		○	○	○	○
-40~+105		△	○	○	○
-40~+125		×	△	○	○
-55~+125		×	×	△	○

* 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