

32.768KHz Series

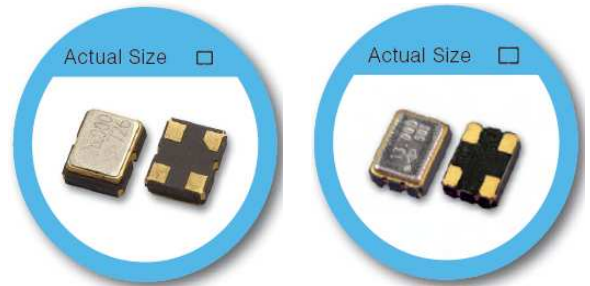
OX/OY Type - 3.2 x 2.5 / 2.5 x 2.0 mm SMD Crystal Oscillator

FEATURE

- Typical 3.2 x 2.5 x 1.05 mm / 2.5 x 2.0 x 0.9 mm ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Operation voltage : 1.8V 2.5V 3.3V.
- Tri-state enable/disable.
- Built-in ASIC enables reduction of current consumption.

TYPICAL APPLICATION

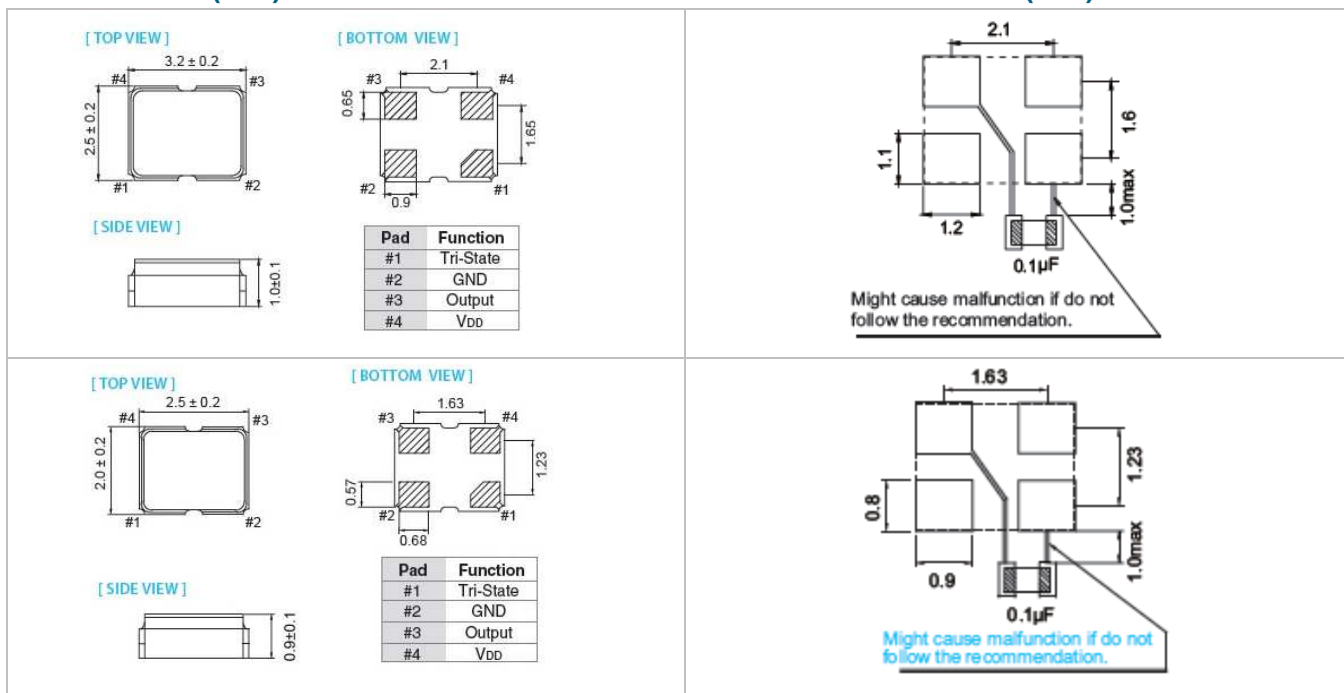
- Typically used for real time clock application.
- WLAN/WiMax.
- Mobile Phone.
- DSC, Set-top Box , HDTV.
- Car navigation systems.



RoHS Compliant Standard

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) 10%	2.97	3.63	2.25	2.75	1.62	1.98	V
Supply Current	--	65	--	62	--	60	uA
Duty Cycle	45	55	45	55	45	55	%
Output Level (CMOS)	Output High (Logic "1") 90%VDD		Output High (Logic "1") 90%VDD		Output High (Logic "1") 90%VDD		V
	Output Low (Logic "0") 10%VDD		Output Low (Logic "0") 10%VDD		Output Low (Logic "0") 10%VDD		
Transition Time: Rise/Fall Time+	50		50		50		nSec
Start Time	2		2		2		mSec
Tri-State (Input to Pin 1)	Enable (High voltage or floating) 0.7VDD		Enable (High voltage or floating) 0.7VDD		Enable (High voltage or floating) 0.7VDD		V
	Disable (Low voltage or GND) 0.3VDD		Disable (Low voltage or GND) 0.3VDD		Disable (Low voltage or GND) 0.3VDD		
Aging (@25°C 1 st 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
 Packing: Tape & Reel, 3000pcs per Reel

FREQ. STABILITY vs. TEMP. RANGE

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

* ○: Standard △: Conditional X: Not available

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