

# 32.768kHz Series

## OX / OY Type

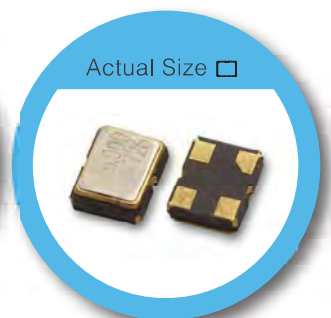
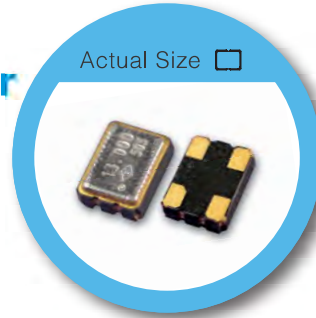
### 3.2 x 2.5 / 2.5 x 2.0 mm SMD Oscillator

#### FEATURE

- 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.

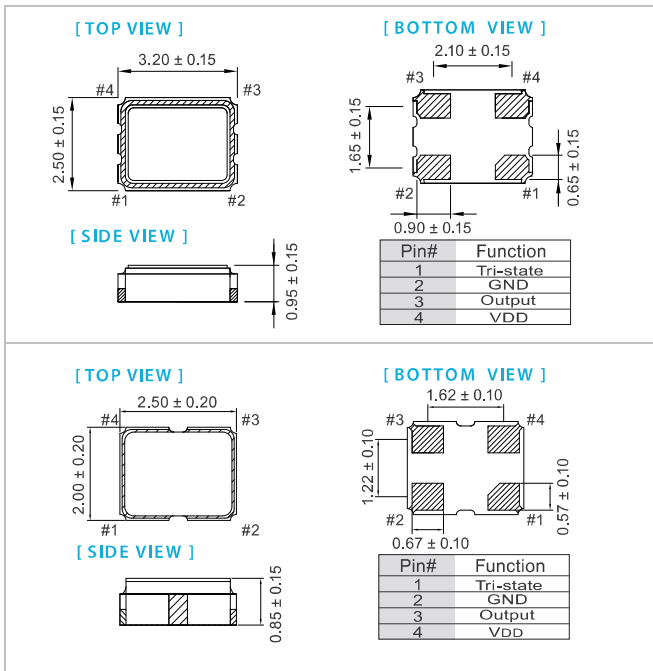
#### TYPICAL APPLICATION

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

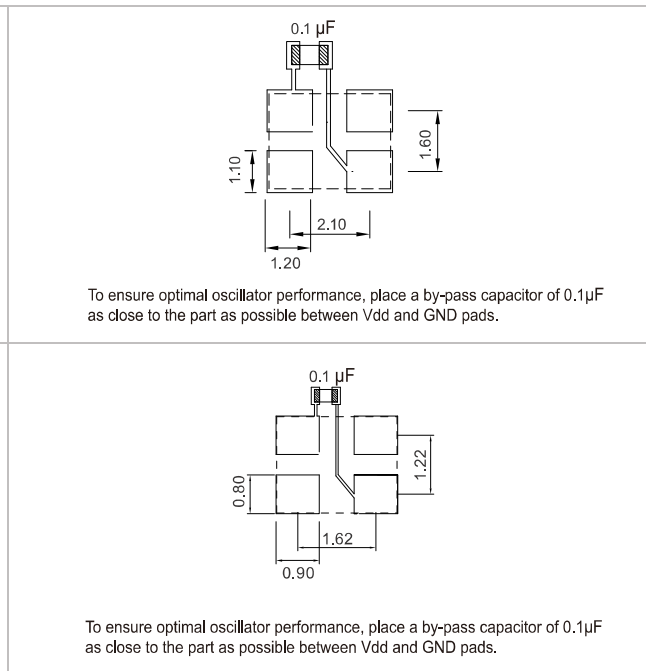


RoHS Compliant

#### 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)	VDD-10%	VDD+10%	VDD-10%	VDD+10%	VDD-10%	VDD+10%	V
Supply Current (@ 15pF load)	--	70	--	66	--	63	µA
(@ no load)	--	65	--	62	--	60	µA
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+	50		50		50		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		
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 VDD, within output load of 15pF

#### FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppm			
	±20	±25	±40	±50
-10~+60	○	○	○	○
-20~+70	△	○	○	○
-40~+85	×	△	○	○
-40~+105	×	×	○	○
-40~+125	×	×	△	○

\* 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

