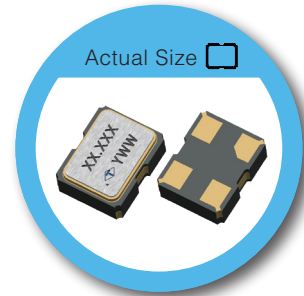


# OZ-D Type Ultra-low Current 32.768kHz For RTC Reference Clock 2.0 x 1.6 mm SMD Crystal Oscillator

## FEATURE

- Typical 2.0 x 1.6 x 0.75 mm ceramic SMD package.
- Operation supply voltage: 1.5V, 1.8V
- RTC frequency 32.768kHz
- Ultra-Low current: 1.4uA typical.
- Frequency Stability  $\pm 25$ ppm over -40°C to 85°C @3days Average
- Pb-free/RoHS compliant

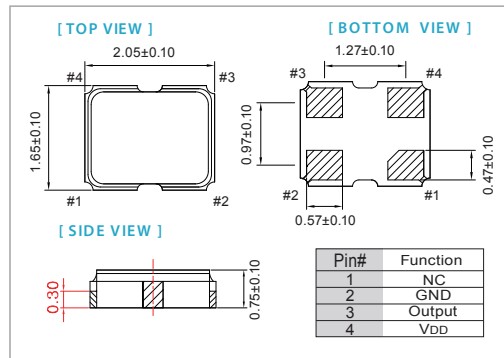


RoHS Compliant

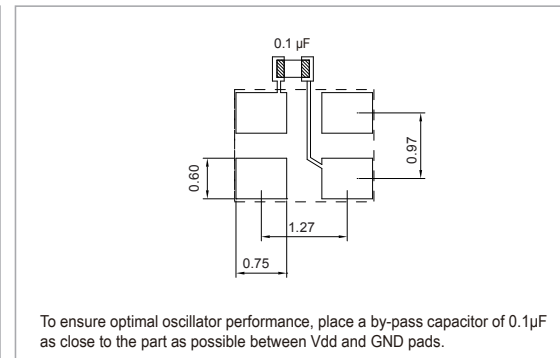
## TYPICAL APPLICATION

- RTC Reference Clock
- Wearable device
- Sport Video Cams
- Ultra-small Notebook PC
- Mobile Phones
- Health and Wellness Monitors

## DIMENSION (mm)



## SOLDER PAD LAYOUT (mm)



## ELECTRICAL SPECIFICATION

Parameters	1.5V		1.8V		Unit
	Min.	Max.	Min.	Max.	
Supply Voltage Variation	V <sub>DD</sub> -5%	V <sub>DD</sub> +5%	V <sub>DD</sub> -5%	V <sub>DD</sub> +5%	V
Frequency	32.768				kHz
Frequency Tolerance (@ 25°C, 3 days average)	-10	10	-10	10	ppm
Frequency vs Temperature (@ -40 to +85°C with reference to +25°C, 3days average)	-25	25	-25	25	ppm
Supply Current (@No load)	Typ. 1.4	1.8	Typ. 1.4	1.8	uA
Output Level	Output High	90% V <sub>DD</sub>	-	90% V <sub>DD</sub>	V
	Output Low	-	10%V <sub>DD</sub>	-	10%V <sub>DD</sub>
Transition Time @10%-90%	Rise Time / Fall Time		-	10	nSec
Duty Cycle	45	55	45	55	%
Startup Time	-	8	-	8	mSec
Aging (@ 25°C, First Year)	-	±3	-	±3	ppm
Storage Temp. Range	-55	125	-55	125	°C

## FREQ. STABILITY vs. TEMP. RANGE

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

\*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

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