

# 32.768kHz

## OZ-I Type

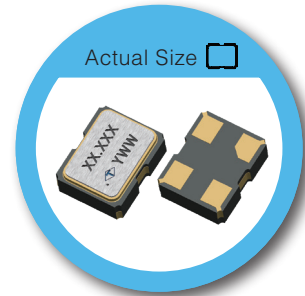
### 2.0 x 1.6 mm SMD Crystal Oscillator

#### FEATURE

- Low Power Supply Voltage: 3.3, 2.5, 1.8V Supply Options
- Singled-end Output: CMOS
- Frequency: 32.768kHz
- Temperature Range: -40°C to 85°C Operation
- Pb-free/RoHS Compliant

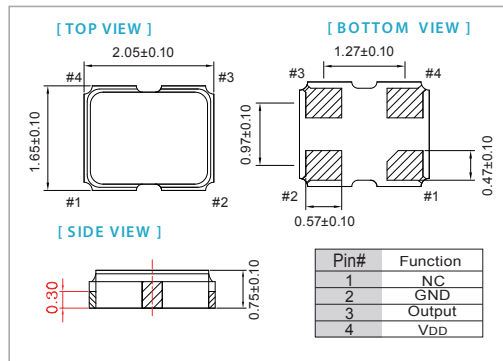
#### TYPICAL APPLICATION

- RTC Module
- Smartphone
- IoT
- Wearable Device
- Watch, Medical

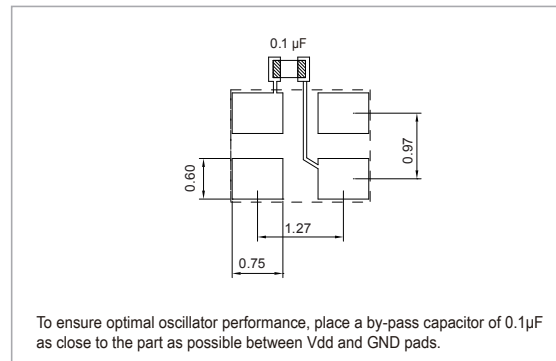


RoHS Compliant

#### 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 (V <sub>DD</sub> )	V <sub>DD</sub> -10%	V <sub>DD</sub> +10%	V <sub>DD</sub> -5%	V <sub>DD</sub> +5%	V <sub>DD</sub> -5%	V <sub>DD</sub> +5%	V	
Frequency Range	32.768						kHz	
Supply Current (No Load)	-	35	-	35	-	35	µA	
Output Level	Output High	2.97	-	2.25	-	1.62	V	
	Output Low	-	0.33	-	0.25	-	0.18	V
Transition Time (10%-90%)	Rise Time / Fall Time	-	15.0	-	15.0	-	15.0	nSec
		45	55	45	55	45	55	%
Duty Cycle		45	55	45	55	45	55	%
Startup Time		-	20	-	20	-	20	mSec
Tri-State Mode (Input to Pin 1)	Enable	0.7 x V <sub>DD</sub>	-	0.7 x V <sub>DD</sub>	-	0.7 x V <sub>DD</sub>	-	V
	Disable	-	0.3 x V <sub>DD</sub>	-	0.3 x V <sub>DD</sub>	-	0.3 x V <sub>DD</sub>	
Stand by Current		-	3	-	3	-	3	µA
Output Loading (CMOS)		-	15	-	15	-	15	pF
Aging (@ 25°C, 1 <sup>st</sup> Year)		-	±3	-	±3	-	±3	ppm
Storage Temp. Range		-55	+125	-55	+125	-55	+125	°C

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

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

\*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.