

# PZ-U Type Crystal Oscillator

## FASTXO 2.0 x 1.6 mm SMD XO

### Frequency up to 200MHz

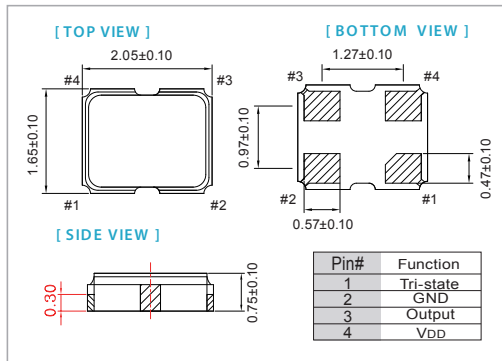
#### FEATURE

- Conforms to AEC-Q100
- Typical 2.05 x 1.65 x 0.75 mm ceramic SMD package
- Operation supply voltage: 1.8V, 2.5V and 3.3V
- FASTXO series, Fast delivery at any frequency
- Tri-State Enable/Disable
- Frequency Stability  $\pm 20$ ppm over  $-40^{\circ}\text{C}$  to  $105^{\circ}\text{C}$
- Pb-free/RoHS compliant

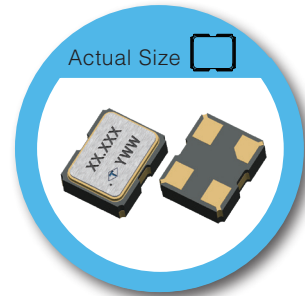
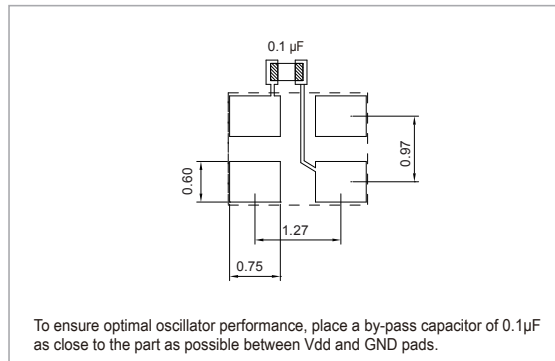
#### TYPICAL APPLICATION

- Wearable device
- Mobile device
- IoT, Smartphone
- Game console

#### DIMENSION (mm)



#### SOLDER PAD LAYOUT (mm)



**RoHS Compliant**

#### ELECTRICAL SPECIFICATION

Parameter	3.3V		2.5V		1.8V		Unit
	Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation	$V_{DD}-5\%$	$V_{DD}+5\%$	$V_{DD}-5\%$	$V_{DD}+5\%$	$V_{DD}-5\%$	$V_{DD}+5\%$	V
Frequency Range	1	200	1	200	1	125	MHz
$V_{DD}$ Sensitivity ( $\pm 5\%$ )	-2	2	-2	2	-2	2	ppm
Supply Current (@15pf Loading)	$1\text{MHz} \leq F_o < 30\text{MHz}$	-	27	-	27	-	25
	$30\text{MHz} \leq F_o < 75\text{MHz}$	-	27	-	27	-	25
	$75\text{MHz} \leq F_o < 125\text{MHz}$	-	30	-	30	-	25
	$125\text{MHz} \leq F_o < 170\text{MHz}$	-	35	-	35	-	-
Output Level	Output High	$90\% V_{DD}$	-	$90\% V_{DD}$	-	$90\% V_{DD}$	V
	Output Low	-	$10\% V_{DD}$	-	$10\% V_{DD}$	-	$10\% V_{DD}$
Transition Time	$1\text{MHz} \leq F_o < 10\text{MHz}$	-	3	-	4	-	4
Rise Time / Fall Time	$10\text{MHz} \leq F_o < 125\text{MHz}$	-	2	-	3	-	3
	$125\text{MHz} \leq F_o < 200\text{MHz}$	-	2	-	2	-	-
Duty Cycle	45	55	45	55	45	55	%
Startup Time	-	8	-	8	-	8	mSec
Tri-State	Output Enable	$0.7 \times V_{DD}$	-	$0.7 \times V_{DD}$	-	$0.7 \times V_{DD}$	-
	Output Disable	-	$0.3 \times V_{DD}$	-	$0.3 \times V_{DD}$	-	$0.3 \times V_{DD}$
Stand by Current (@PD Mode)	-	400	-	400	-	400	$\mu\text{A}$
Stand by Current (@OE Mode)	-	20	-	20	-	20	$\text{mA}$
Output Loading	15		15		15		pf
RMS Phase Jitter offset 12kHz to 20MHz @50MHz	Integer Mode	-	1.5	-	1.5	-	1.5
	Fractional Mode	-	2.0	-	2.0	-	2.0
Aging (@ 25°C, First Year)	$\pm 3$		$\pm 3$		$\pm 3$		ppm
Storage Temp. Range	-55	125	-55	125	-55	125	$^{\circ}\text{C}$

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

Temp. (°C)	ppm	$\pm 15$	$\pm 20$	$\pm 25$	$\pm 50$
-20~+70	$\Delta$	$\Delta$	$\circ$	$\circ$	$\circ$
-40~+85	$\times$	$\times$	$\Delta$	$\circ$	$\circ$
-40~+105	$\times$	$\times$	$\Delta$	$\circ$	$\circ$
-40~+125	$\times$	$\times$	$\times$	$\times$	$\circ$

\*O: Available  $\Delta$ : 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.**

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