SMD Crystal Oscillator　　FCXO-07

◆ **FEATURES**

- AT-cut crystal oscillator / frequency range 1 ~ 80 MHz.
- 1.6 × 1.2 × 0.7 mm Max. / 4.1 mg (the smallest package in its class).
- Frequency tolerance ±7 ppm available.
- Ceramic with metal lid sealed by patented Electron-Beam-Soldering.

◆ **APPLICATIONS**

- Mobile communication, wireless-modules.

RoHS Compliant　　**Pb** Free　　Actual size ■

◆ **STANDARD SPECIFICATIONS / ORDERING INFORMATION**

Ordering Number (Sample):

X7A	—	49152	—	18	—	C	Q3	—	G	X	##
(1)		(2)		(3)		(4)	(5)		(6)	(7)	(8)

(1) Type
X7A

(2) Nominal Frequency	
1.000 ~ 80.000 MHz	e.g. 49.152 MHz = **49152**

(3) Supply Voltage	
1.8 ±0.18 V	**18**
2.5 ±0.25 V	**25**
3.3 ±0.33 V	**33**
Other: 1.60 ~ 3.63 V	**NN**

(4) Frequency Tolerance @ 25°C			
±7 ppm	**A**	±20 ppm	**D**
±10 ppm	**B**	±30 ppm	**E**
±15 ppm	**C**	±50 ppm	**F**
		Other	**N**

(5) Operating Temperature	Frequency Temperature Characteristics (with reference to 25°C)				
	±10 ppm	±15 ppm	±20 ppm	±30 ppm	±50 ppm
-20 ~ +70°C	**P1**	**P2**	**P3**	**P4**	**P5**
-30 ~ +85°C	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**
-40 ~ +85°C	**-**	**R2**	**R3**	**R4**	**R5**
Other	**NN**				

(6) Storage Temperature[1]	
-40 ~ +85°C	**G**
-40 ~ +105°C	**H**
Other	**N**

[1] Not applicable to packing materials

(7) Tape & Reel (φ180 mm)	
3000 pcs/reel	**X**
Other	**N**

(8) RIVER Use Only (As needed)

Common Parameter	Specification	Unit	Note
Operating Supply Current	2.0 Max.	mA	F = 40 MHz, V_{DD} = 3.0 V, No load
Stand-by Supply Current	10 Max.	μA	Stand-by = "L"
High-level Output Voltage	V_{DD}-0.4 Min.	V	I_{OH} = -4 mA
Low-level Output Voltage	0.4 Max.	V	I_{OL} = +4 mA
Output Load	15 Max.	pF	-
Output Level	CMOS	-	-
Duty Cycle	50 ±5	%	-
Rise / Fall Time	4.5 Max.	ns	10% V_{DD} to 90% V_{DD} level

| Common Parameter		Specification	Unit	Note
Startup Time		2.0 Max.	ms	V_{DD} = 3.3 V
		5.0 Max.	ms	V_{DD} = 1.8 V
Random Jitter (RJ) [2]		2.9 typ.	ps	V_{DD} = 3.3 V
Total Jitter (TJ) [2]		40 typ.	ps	V_{DD} = 3.3 V, TJ = n*RJ (n≒14.1, BER = 10^{-12})
Phase Jitter		1.0 Max.	ps	Offset frequency: 12 kHz ~ 5 MHz, V_{DD} = 3.3 V
Stand-by (pin #1) Function	(High)	0.7V_{DD} Min.	V	Output (pin #3) enabled
	(Low)	0.3V_{DD} Max.	V	Output (pin #3) disabled: High-Z

[2] Measured on "Wave Crest 3100C"

- The codes for the *Ordering Number* are indicated in blue, and the specifications are described in black.
- Not all combinations of options are available as standard.
- For specifications that include "*Overall Frequency-Tolerance*", please select "N" for the *(4) Frequency Tolerance* and let us know your specific requirements.
- For specifications other than those above, please contact our sales / website and let us know your specific requirements.
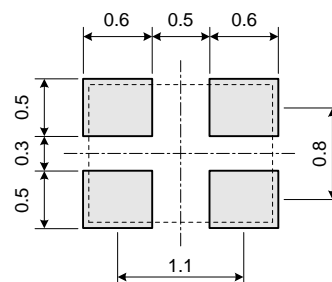

◆ **OUTLINE DEMENSIONS**
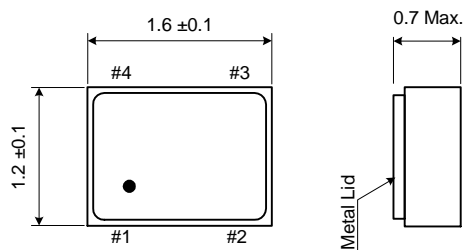
Pinout:
Pin #1. Stand-by (Marked with " ● ")
Pin #2. Ground & Metal Lid*
Pin #3. Output
Pin #4. V_{DD}
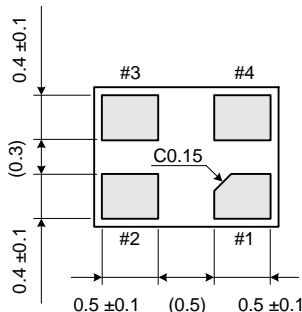
◆ **LAND PATTERN**

- For operational stability, a 0.01 μF bypass capacitor should be placed between V_{DD} (Pin #4) and GND (Pin #2) as close as possible to the product.

RIVER