



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## PX Type 3.2 x 2.5 mm SMD Crystal Oscillator

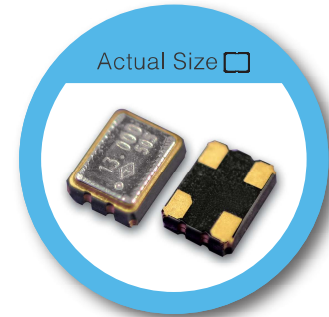
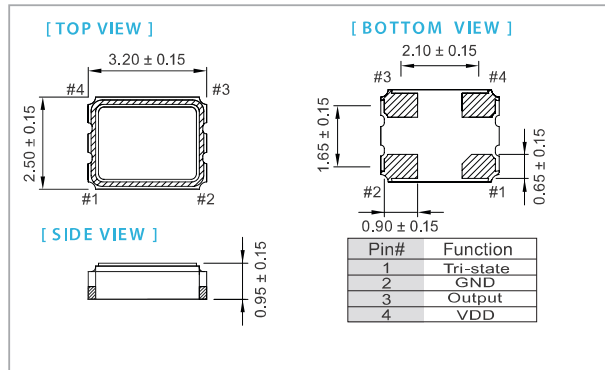
### FEATURE

- Typical 3.2 x 2.5 x 0.95mm ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Operation voltage: 1.8V, 2.5V, 3.3V
- Tri-state enable/disable

### TYPICAL APPLICATION

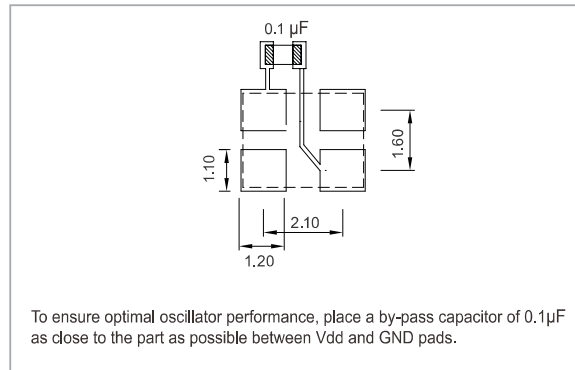
- Computer Peripherals
- Set-top Box , HDTV
- DSC, PDA

### DIMENSION (mm)



RoHS Compliant

### SOLDER PAD LAYOUT (mm)



### ELECTRICAL SPECIFICATION

Parameter	3.3 V		2.5 V		1.8 V		unit
	Min.	Max.	Min.	Max.	Min.	Max.	
<b>Supply Voltage Variation (VDD)</b>	VDD-10%	VDD+10%	VDD-10%	VDD+10%	VDD-10%	VDD+10%	V
<b>Frequency Range</b>	2.048	200	2.048	166	2.048	110	MHz
<b>VDD Sensitivity (±10%)</b>	-2	2	-2	2	-2	2	ppm
<b>Supply Current</b>	2.048 MHz ≤ Fo < 30 MHz	10	8	8	6	6	mA
	30 MHz ≤ Fo < 75 MHz	15	10	8	8		
	75 MHz ≤ Fo < 133 MHz	20	15	15	12		
	133 MHz ≤ Fo < 166 MHz	22	15	15	12		
	166 MHz ≤ Fo ≤ 200 MHz	25	15	15	12		
<b>Duty Cycle</b>	45	55	45	55	45	55	%
<b>Output Level (CMOS)</b>	Output High (Logic "1")	2.97	2.25	1.62	—	—	V
	Output Low (Logic "0")	0.33	0.25	0.18	—	—	
<b>Transition Time: Rise/Fall Time<sup>+</sup></b>	2.048 MHz ≤ Fo < 10 MHz	3	4	5	5	4	nSec
	10 MHz ≤ Fo	2	3	4	4	3	
<b>Start Time</b>	—	2	—	2	—	2	mSec
<b>Tri-State (Input to Pin 1)</b>	Enable (High voltage or floating)	2.31	1.75	1.26	—	—	V
	Disable (Low voltage or GND)	0.99	0.75	0.54	—	—	
<b>Period Jitter (Pk-Pk)</b>	Specific Frequency <sup>**</sup>	40	40	40	40	40	pSec
	Others	200	200	200	200	200	
	Standby Current	15	15	15	15	15	
<b>Aging (@ 25°C 1st year)</b>	±3	±3	±3	±3	±3	±3	ppm
<b>Storage Temp. Range</b>	-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, with an output load of 15pF.

\*\* Specific frequency including 4.0, 6.0, 8.0, 12.0, 13.0, 16.0, 19.2, 20.0, 24.0, 26.0, 32.0, 38.4 and 40.0MHz

### FREQ. STABILITY vs. TEMP. RANGE

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

\* ○: 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.**

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Specifications subject to change without notice.