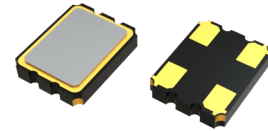


## 3.2 × 2.5 mm 32.768KHz SMD Crystal Oscillator

### Feature

- Typical 3.2 x 2.5 x 0.95 mm SMD package.
- Tight symmetry (45 to 55%) available.
- Operation voltage: 1.8V, 2.5V, 3.3V
- Tri-state enable/disable
- Built-in ASIC enables reduction of current consumption

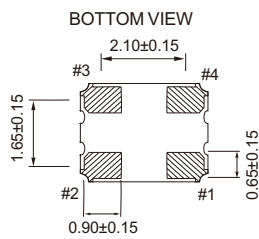
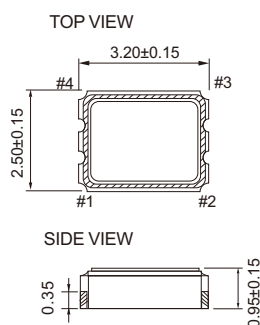


### Electrical Specifications

Parameter	3.3V		2.5V		1.8V		Unit	
	Min.	Max.	Min.	Max.	Min.	Max.		
Supply Voltage Variation	2.97	3.63	2.25	2.75	1.62	1.98	V	
Supply Current	@ 15pF Load	-	70	-	66	-	63	uA
	@ no load	-	65	-	62	-	60	
Duty Cycle	45	55	45	55	45	55	%	
Transition Time : Rise/Fall Time	-	50	-	50	-	50	nSec	
Output Level	Out High (Logic "1")	2.97		2.25		1.62	V	
	Out Low (Logic "0")		0.33		0.25			0.18
Start Time	-	2	-	2	-	2	mSec	
Tri-State (Input to Pin 1)	Enable (High Voltage or floating)	2.31	-	1.75	-	1.26	V	
	Disable (Low Voltage or GND)	-	0.99	-	0.75	-		0.54
Aging (@25 1st year)	-	±3	-	±3	-	±3	ppm	
Storage Temp. Range	-55	125	-55	125	-55	125	°C	

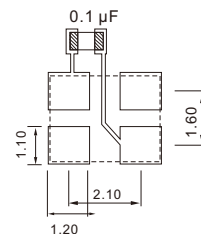
Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.  
 + Transition times are measured between 10% and 90% of VDD, with an output load of 15pF.

### Dimension(mm)



PIN#	Function
1	Tri-State
2	GND
3	Output
4	VDD

### Solder Pad Layout(mm)



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1 µF as close to the part as possible between Vdd and GND pads.

### FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppm			
	±20	±25	±40	±50
-10 ~ +60	○	○	○	○
-20 ~ +70	△	○	○	○
-40 ~ +85	X	△	○	○
-40 ~ +125	X	X	△	○

○: Available △: Conditional X: Not available  
 Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration load variation