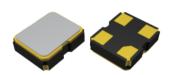
Crystal Oscillator, Series FCO-6K

SMD Crystal Oscillator 2.0×1.6 mm 32.768KHz

FEATURE

- Typical 2.0×1.6mm 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

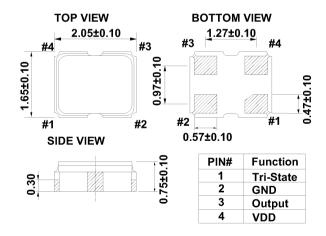


O ELECTRICAL SPECIFICATIONS

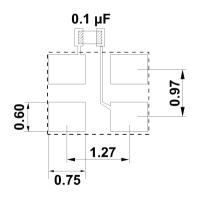
		Specifications						
Parameter		3.3V		2.5V		1.8V		
		Max.	Min.	Max.	Min.	Max.	Unit	
Supply Voltage Variation		3.63	2.25	2.75	1.62	1.98	V	
@ 15pF Load	-	70	-	66	-	63	uA	
@ no load	-	65	-	62	-	60		
Duty Cycle		55	45	55	45	55	%	
Transition Time :Rise/Fall Time		50	-	50	-	50	nSec	
Out High(Logic"1")	2.97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

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

DIMENSION (mm)



SOLDER PAD LAYOUT(mm)



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

○ FREQ. STABILITY vs. TEMP. RANGE

ppm Temp. (°C)	±20	±25	±40	±50
-10 ~ +60	0	0	0	0
-20 ~ +70	Δ	0	0	0
-40 ~ +85	×	Δ	0	0
-40 ~ +125	×	×	Δ	0

o: Available A: Conditional X: Not available Inclusive of calibration @ 25 $^{\circ}\text{C}$, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration

⁺ Transition times are measured between 10% and 90% of VDD, with an output load of 15pF.