

Research for Frequency Control

Features

Operational Voltage: 1.8, 2.5, 3.3, 5.0V

Tight Symmetry (45% – 55%) available

Tape & Reel: 1K / 2K / 3K / 5K pcs. per reel

Standard 5.0 x 3.2 x 1.2mm Ceramic SMD package.

RoHS Compliant Product

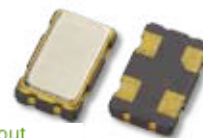
Typical Applications

GPS, Mobile Phone

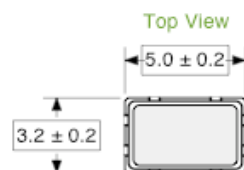
Notebook, Tablet, HDTV

WLAN, Wireless, Fiber / 10Gb Ethernet

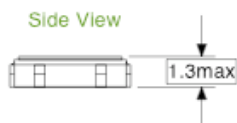
SMD Crystal Oscillator
5.0 x 3.2 x 1.2mm Ceramic
0.032768MHz – 125MHz



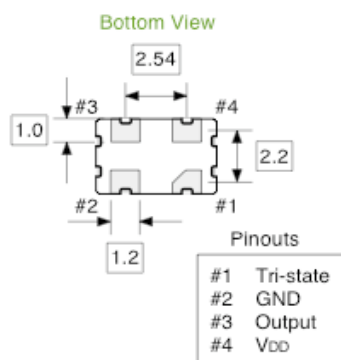
Outlines & Dimensions (mm)



Top View

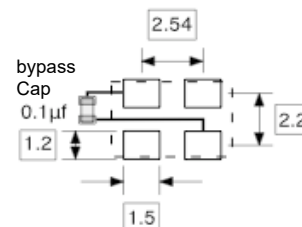


Side View



Bottom View

Solder Pad Layout



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

Electrical Specifications

Parameter	5.0 V		3.3 V		2.5 V		1.8V		Unit
	Min	Max	Min	Max	Min	Max	Min	Max	
Supply Voltage Variation (VDD) 10%	4.5	5.5	2.97	3.63	2.25	2.75	1.62	1.98	V
Frequency Range	0.032768	75	0.032768	125	0.3456	125	0.6912	125	MHz
Supply Current									
0.032768 MHz ≤ Fo < 0.6912 MHz	-	7	-	5	-	5	-	-	mA
0.6912 MHz ≤ Fo < 1.5 MHz	-	7	-	5	-	5	-	5	
1.5 MHz ≤ Fo < 20 MHz	-	10	-	7	-	7	-	5	
20 MHz ≤ Fo < 50 MHz	-	30	-	20	-	15	-	15	
50 MHz ≤ Fo < 70 MHz	-	40	-	30	-	20	-	15	
70 MHz ≤ Fo < 75 MHz	-	40	-	30	-	20	-	20	
75 MHz ≤ Fo < 100 MHz	-	-	-	30	-	25	-	20	
100 MHz ≤ Fo	-	-	-	40	-	30	-	25	
Output Level (CMOS)									
Output High (Logic "1")	90% VDD	-	90% VDD	-	90% VDD	-	90% VDD	-	V
Output Low (Logic "0")	-	10%VDD	-	10%VDD	-	10%VDD	-	10%VDD	
Transition Time: Rise/Fall Time *									
0.032768 MHz ≤ Fo < 0.3456 MHz	-	200	-	200	-	200	-	-	nSec
0.3456 MHz ≤ Fo < 0.6912 MHz	-	5	-	6	-	6	-	-	
0.6912 MHz ≤ Fo < 20 MHz	-	5	-	6	-	6	-	6	
20 MHz ≤ Fo < 50 MHz	-	4	-	4	-	5	-	5	
50 MHz ≤ Fo < 70 MHz	-	2	-	3	-	3	-	3	
70 MHz ≤ Fo < 75 MHz	-	2	-	3	-	3	-	3	
75 MHz < Fo	-	-	-	2	-	2	-	3	mSec
Start Time	-	5	-	5	-	5	-	5	
Tri-State (Input to Pin 1)									
Output Active	0.8 VDD	-	0.6 VDD	-	0.7 VDD	-	0.7 VDD	-	V
Output in High Impedance State	-	0.16 VDD	-	0.15 VDD	-	0.2 VDD	-	0.27 VDD	
Absolute Clock Period Jitter	-	40	-	40	-	40	-	40	pSec
Standby Current	-	10	-	10	-	10	-	10	μA
Aging	-	± 3	-	± 3	-	± 3	-	± 3	ppm
Storage Temp. Range	- 55	125	- 55	125	- 55	125	- 55	125	°C

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

Freq. Stability vs. Temp. Range

Temp (°C)	ppm	± 20	± 25	± 50
-10 - +60	S	S	S	S
-20 - +70	O	S	S	S
-40 - +85	X	O	S	S

S = Standard O = Optional X = Not available

* Inclusive of calibration @ 25°C, operating temperature range, input voltage variation, load variation, aging (1st year), shock and vibration.



Specifications subject to change without notice.

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