

WHEN TIMING IS OF THE ESSENCE...

Features

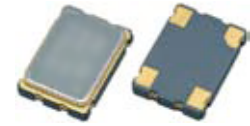
CMOS Output, Ultra Low Phase Jitter
Operational Voltage: 1.8, 2.5, 3.3, 5.0V
Tight Symmetry (45% – 55%) available
Tape & Reel: 1K/pcs. per reel
Standard 7.0 x 5.0 x 1.3mm Ceramic SMD package.

RoHS Compliant Product

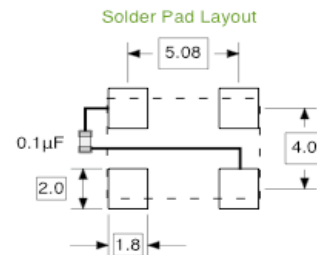
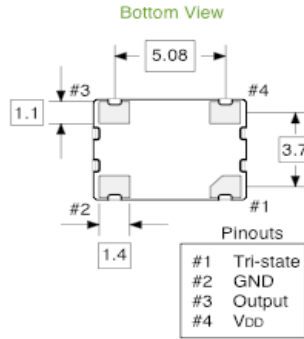
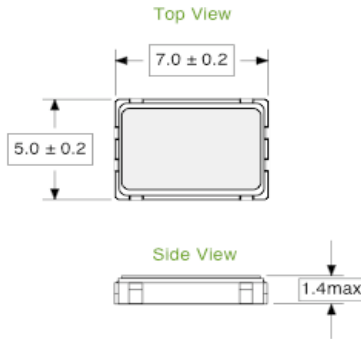
Typical Applications

Notebook, GPS, Black Box,
PC Main Board, Peripherals, xDSL,
WLAN, Fiber / 10Gb Ethernet

SMD Crystal Oscillator 7.0 x 5.0 x 1.3mm Ceramic 12.0Hz – 133MHz



Outlines & Dimensions (mm)



*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	5.0V		3.3V		2.5V		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	0.012	110	0.012	156.25	0.012	133	0.048	125	Mhz
Supply Current									
0.012 Mhz ≤ Fo < 0.048 Mhz	-	7	-	5	-	5	-	-	mA
0.046 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 < 125 Mhz	-	40	-	30	-	20	-	20	
125Mhz ≤ Fo ≤ 133Mhz	-	-	-	40	-	30	-	-	
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 *									
0.012 Mhz ≤ Fo < 1.0 Mhz	-	200	-	200	-	200	-	-	nSec
1.0 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 < 125 Mhz	-	2	-	3	-	3	-	3	
125 Mhz ≤ Fo ≤ 133 Mhz	-	-	-	2	-	2	-	-	
Start Time	-	5	-	5	-	5	-	5	mSec
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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