

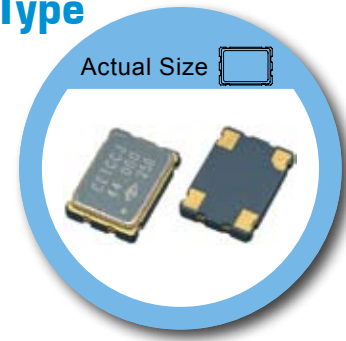
# 7.0 x 5.0 mm SMD Crystal Oscillator – OC Type

## FEATURE

- Typical 7.0 x 5.0 x 1.3 mm ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Packing: Tape & Reel, 1000/3000pcs per Reel.

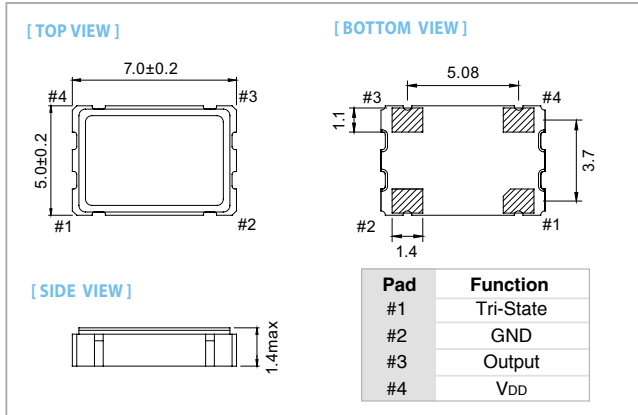
## TYPICAL APPLICATION

- xDSL, WLAN, Fiber/10G-Bit Ethernet
- Notebook, PDA
- PC main board, VGA card

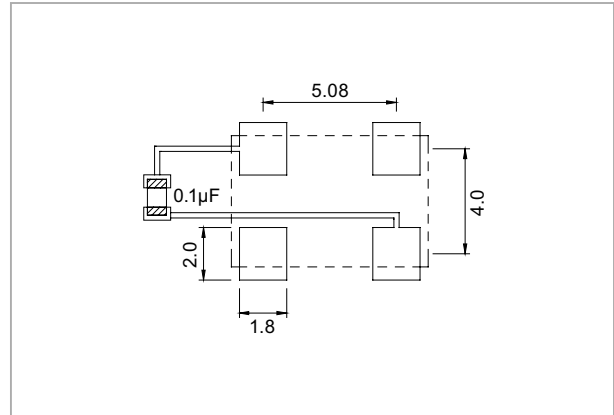


**RoHS Compliant Standard**

## DIMENSION (mm)



## SOLDER PAD LAYOUT (mm)



## ELECTRICAL SPECIFICATION

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 < 0.048MHz	–	7	–	5	–	5	–	–	mA
0.048 MHz ≤ Fo < 1.5MHz	–	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	
125 MHz ≤ Fo ≤ 133 MHz	–	–	–	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 <sup>+</sup>									
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

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.

## FREQ. STABILITY vs. TEMP. RANGE

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

○:Standard △:Available (case by case) ×:Not available  
 \* Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1<sup>st</sup> year), shock, and vibration