

SHOULDER ELECTRONICS LIMITED

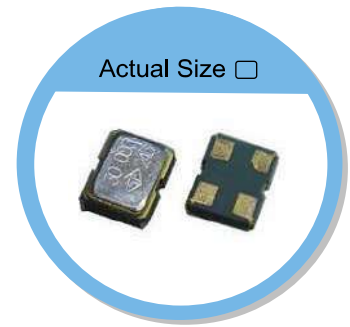
Crystal Oscillator 2.0 x 1.6 mm SMD

FEATURE

- Typical 2.05 x 1.65 x 0.75 mm ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Operation voltage: 1.8V, 2.5V, 3.3V
- Tri-state enable/disable

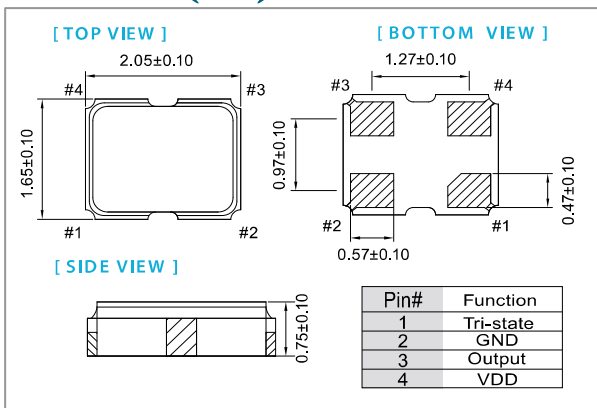
TYPICAL APPLICATION

- WLAN/WiMax
- Mobile Phone
- DSC,Set-top Box,HDTV

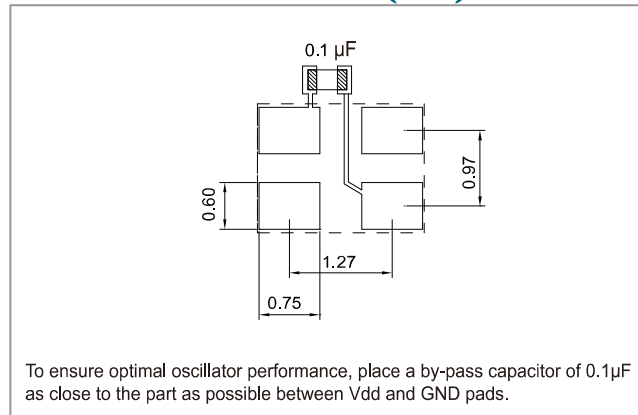


RoHS Compliant

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

Parameter	3.3V		2.5V		1.8V		Unit
	Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD) ±10%	2.97	3.63	2.25	2.75	1.62	1.98	V
Frequency Range	1	50	1	50	1	50	MHz
Standard Frequency	24,26						
Supply Current	-	15	-	10	-	7	mA
Duty Cycle	45	55	45	55	45	55	%
Output Level (CMOS)							
Output High (Logic "1")	2.97	-	2.25	-	1.62	-	V
Output Low (Logic "0")	-	0.33	-	0.25	-	0.18	
Transition Time: Rise/Fall Time ⁺							
1 MHz ≤ Fo < 20 MHz	-	3	-	4	-	5	nSec
20 MHz ≤ Fo ≤ 50 MHz	-	2	-	3	-	4	
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	
Period Jitter (pk-pk)	-	40	-	40	-	40	pSec
RMS Phase Jitter (Integrated 12 KHz-20 MHz)	-	1	-	1	-	1	pSec
Standby Current	-	10	-	10	-	10	µ A
Aging (@ 25 °C 1 st 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 15 pF.

FREQ. STABILITY vs. TEMP. RANGE

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

*O: Available △: Conditional X: Not available

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

Note: not all combination of options are available. Other specifications may be available upon request.

Rev(2)04/2015

Specifications subject to change without notice.