

SMD Crystal Oscillator 2.0 × 1.6 mm

Feature

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



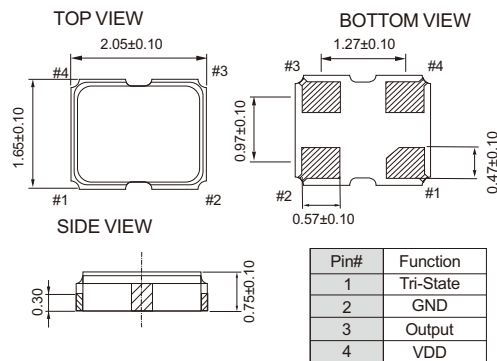
Electrical Specifications

Parameter		3.3V		2.5V		1.8V		Unit
		Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation		2.97	3.63	2.25	2.75	1.62	1.98	V
Frequency Range		1.5	50	1.5	50	1.5	50	MHz
Standard Frequency		24,26,32,40						MHz
Supply Current		-	15	-	10	-	7	mA
Duty Cycle		45	55	45	55	45	55	%
Transition Time :	1.5 MHz $\leq$ FO < 20MHz	-	4	-	4	-	5	nSec
	20 MHz $\leq$ FO < 50MHz	-	3	-	3	-	4	
Output Level (CMOS)	Output High (Logic "1")	2.97		2.25		1.62		V
	Output Low (Logic "0")		0.33		0.25		0.18	
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 12KHz to 20MHz)		-	1	-	1	-	1	pSec
Standby Current		-	10	-	10	-	10	μ A
Aging (@25 1st year)		-	± 3	-	± 3	-	± 3	ppm
Storage Temp. Range		-55	125	-55	125	-55	125	$^{\circ}$ C

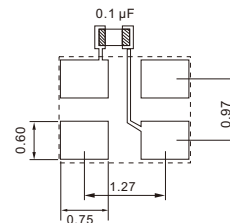
Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position

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

Dimension(mm)



Solder Pad Layout(mm)



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

FREQ. STABILITY vs. TEMP. RANGE

Temp. ($^{\circ}$ C) \ ppm	± 20	± 25	± 50
-10 ~ +60	o	o	o
-20 ~ +70	Δ	o	o
-40 ~ +85	x	o	o
-40 ~ +125	x	x	o

o: Available Δ : Conditional x: Not available

Inclusive of calibration @ 25 $^{\circ}$ C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration