

## SMD Crystal Oscillator 2.5 × 2.0 mm

### Feature

- Typical 2.5 x 2.0 x 0.81 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



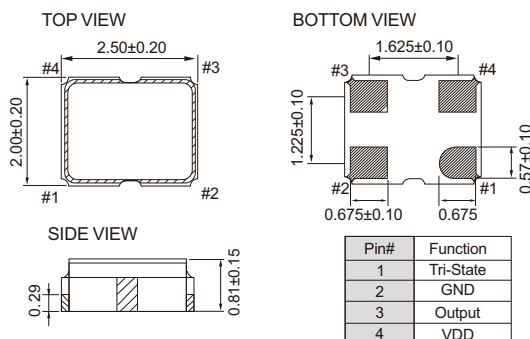
### Electrical Specifications

Parameter	3.3V		2.5V		1.8V		Unit	
	Min.	Max.	Min.	Max.	Min.	Max.		
Supply Voltage Variation	3.135	3.465	2.375	2.625	1.71	1.89	V	
Frequency Range	1.25	125	1.25	125	1.25	125	MHz	
Standard Frequency	24,26,30,40						MHz	
Supply Current( At 15pF Load)	-	15	-	10	-	7	mA	
Duty Cycle	45	55	45	55	45	55	%	
Transition Time : Rise/Fall Time	1.25 MHz ≤ FO < 10MHz	-	3	-	4	-	5	nSec
	10 MHz ≤ FO < 125MHz	-	3	-	3	-	4	
Output Level	Out High	2.97		2.25		1.62	V	
	Out Low		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(@-40 to 85°C)	-	10	-	10	-	10	µA	
Standby Current(@-40 to 125°C)	-	20	-	20	-	20	µA	
Aging(@25 1st year)	-	±3	-	±3	-	±3	ppm	
Storage Temp. Range	-55	125	-55	125	-55	125	°C	

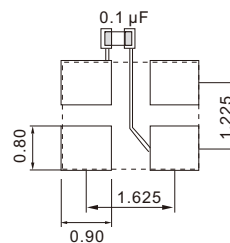
Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position

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

### Dimension(mm)



### Solder Pad Layout(mm)



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

### FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppm		
	±20	±25	±50
-10 ~ +60	○	○	○
-20 ~ +70	△	○	○
-40 ~ +85	X	○	○
-40 ~ +125	X	X	○

○: Available △: Conditional X: Not available

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