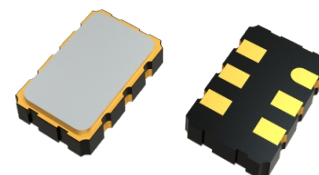


## FASTVCXO, Series

# 5.0 x 3.2 mm SMD Differential Output Voltage Controlled Crystal Oscillator

## Feature

- Differential output: LVPECL, LVDS
- Frequency support from 10MHz to 1.5GHz
- Low phase jitter typical: <1ps RMS from 12kHz to 20MHz
- Wide frequency control range
- Pb-free/RoHS compliant



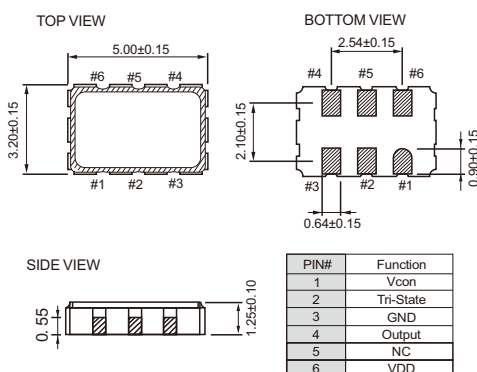
## Electrical Specifications

Parameter		LVPECL				LVDS				Unit
		3.3V		2.5V		3.3V		2.5V		
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation		VDD-5%	VDD+5%	VDD-5%	VDD+5%	VDD-5%	VDD+5%	VDD-5%	VDD+5%	V
Frequency Range		10	1500	10	1500	10	1500	10	1500	MHz
Supply Current	10MHz ≦ F0<160MHz	-	75	-	75	-	50	-	50	mA
	160MHz ≦ F0<1500MHz	-	100		100		75		75	
Duty Cycle		45	55	45	55	45	55	45	55	%
Transition Time : Rise/Fall Time		-	1.0	-	1.0	-	1.0	-	1.0	nSec
Output Level	Out High(Logic"1")	2.27		2.27			1.6		1.6	V
	Out Low(Logic"0")		1.7		1.7	0.9		0.9		
Start Time		-	10	-	10	-	10	-	10	mSec
Tri-State (Input to Pin 2)	Enable(High Voltage or floating)	0.7V <sub>DD</sub>	-	0.7V <sub>DD</sub>	-	0.7V <sub>DD</sub>	-	0.7V <sub>DD</sub>	-	V
	Disable(Low Voltage or GND)	-	0.3 V <sub>DD</sub>	-	0.3 V <sub>DD</sub>	-	0.3 V <sub>DD</sub>	-	0.3 V <sub>DD</sub>	
RMS Phase Jitter (integrated12KHz to 20MHz)			1		1		1		1	pSec
Control Voltage Function on Pin1										
Control Voltage Center		1.65		1.25		1.65		1.25		V
Control Voltage Range		0.3	3	0.3	3	0.3	3	0.3	3	V
Absolute Pulling Range (APR)		±50		±50		±50		±50		ppm
Linearity		10		10		10		10		%
Modulation Bandwidth		10	-	10	-	10	-	10	-	kHz
VC Input Impedance		1	-	1	-	1	-	1	-	MΩ
Aging(@25 1st year)		-	±3	-	±3	-	±3	-	±3	ppm
Storage Temp. Range		-55	125	-55	125	-55	125	-55	125	℃

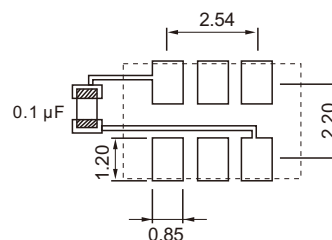
Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position

+ Transition times are measured between 20% and 80% of V<sub>DD</sub>.

## Dimension(mm)



## Solder Pad Layout(mm)



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1  $\mu\text{F}$  as close to the part as possible between V<sub>dd</sub> and GND pads.

## FREQ. STABILITY vs. TEMP. RANGE

Temp. ( $^{\circ}\text{C}$ ) \ ppm	$\pm 25$	$\pm 50$
-10 ~ +60	O	O
-20 ~ +70	$\Delta$	O
-40 ~ +85	$\Delta$	O

O: Available  $\Delta$ : Conditional X: Not available

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