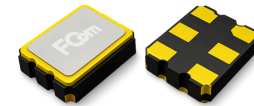


FCom Crystal Oscillator

Series FCO-3L-PG

Differential Oscillator 3.2×2.5 mm



Feature

- Frequency support up to 1.5GHz
- Low phase jitter: 0.6 pS, typ. RMS from 12kHz - 20MHz
- Tri-state enable/disable

Application

- Enterprise Server, SAS/SATA
- Microprocessors/DSP/FPGA
- Broadband Access, Smart Grid
- High-Speed Gigabite Ethernet
- Storages Area Network, SONET, Fiber Channel

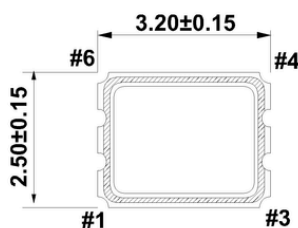
ELECTRICAL SPECIFICATIONS

Parameters		Symbol	LVPECL				Units	Notes	
			3.3V		2.5V				
			Min.	Max.	Min.	Max.			
Frequency Range		F	10~1500				MHz		Test condition Ambient temperature: 25 ± 5°C Relative humidity: 40% ~ 70%
Supply Current		Icc	-	50	-	45	mA		
Transition Time	Rise Time	Tr	-	1.0	-	1.0	nSec	Measured from 20% ~ 80%	
	Fall Time	Tf	-	1.0	-	1.0			
Output Level		VoH	2.27	2.7	1.47	1.9	V	Output High	
		VoL	1.45	1.7	0.65	0.9	V	Output Low	
Tri-State Mode		VIH	70% Vdd	-	70% Vdd	-	V	Enable	
		VIL	-	30% Vdd	-	30% Vdd	V	Disable	
Phase Noise		PN	Typ.	Max.	Typ.	Max.	dBc/Hz	At VDD=3.3V, fout=250MHz	
1 kHz			-107	-	-107	-			
10 kHz			-111	-	-111	-			
100 kHz			-114	-	-114	-			
1 MHz			-125	-	-125	-			
20 MHz			-147	-	-147	-			
RMS Phase Jitter (12 kHz~20 MHz)	Fractional Mode	PJ	0.8	1.5	0.8	1.5	pSec		
	Integer Mode		0.6	1.2	0.6	1.2			
Duty Cycle		TH/T	45 ~ 55				%		
Stand by Current		Icc(ST)	-	18	-	18	mA		
Output Load		RL	50Ω, VDD – 2V				/		
Start-up Time		Tosc	10				mSec	Max	
Aging		ppm/yr	±3				ppm/yr	1st. Year at 25°C	

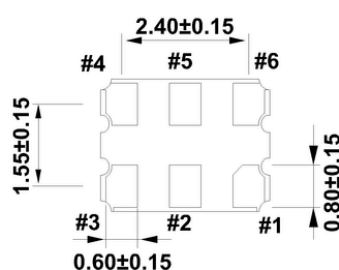
! Note : The table shows common spec. if you have special spec. requirement , please feel free to contact our salesperson.

DIMENSION(mm)

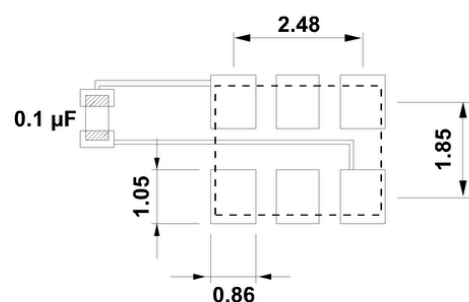
TOP VIEW



BOTTOM VIEW



Solder Pad Layout(mm)



SIDE VIEW



PIN#	Function
1	NC/Tri-State
2	Tri-State/NC
3	GND
4	Output
5	No Connection
6	Supply Voltage

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

Parameters		Symbol	LVDS				Units	Notes	
			3.3V		2.5V				
			Min.	Max.	Min.	Max.			
Frequency Range		F	10~1500				MHz		Test condition Ambient temperature : 25 ± 5℃ Relative humidity : 40% ~ 70%
Supply Current		Icc	-	45	-	35	mA		
Transition Time	Rise Time	Tr	-	1.0	-	1.0	nSec	Measured from 20% ~ 80%	
	Fall Time	Tf	-	1.0	-	1.0			
Output Level		VoH	-	1.6	-	1.6	V	Output High	
		VoL	0.9	-	0.9	-	V	Output Low	
Tri-State Mode		VIH	70% Vdd	-	70% Vdd	-	V	Enable	
		VIL	-	30% Vdd	-	30% Vdd	V	Disable	
Phase Noise		PN	Typ.	Max.	Typ.	Max.	dBc/Hz	At VDD=3.3V, fout=250MHz	
1 kHz			-107	-	-107	-			
10 kHz			-111	-	-111	-			
100 kHz			-114	-	-114	-			
1 MHz			-125	-	-125	-			
20 MHz			-147	-	-147	-			
RMS Phase Jitter (12 kHz~20 MHz)	Fractional Mode	PJ	0.8	1.5	0.8	1.5	pSec		
	Integer Mode		0.6	1.2	0.6	1.2			
Duty Cycle		TH/T	45 ~ 55				%		
Stand by Current		Icc(ST)	-	18	-	18	mA		
Output Load		RL	100Ω				/		
Start-up Time		Tosc	10				mSec	Max	
Aging		ppm/yr	±3				ppm/yr	1st. Year at 25℃	

FREQ. STABILITY vs. TEMP. RANGE

Temp.(°C) \ ppm	± 25	± 50
@-10~60°C	○	○
@-20~70°C	○	○
@-40~85°C	△	○
@-40~105°C	×	○

○: Available △: Conditional ×: Not available

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