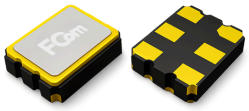
FCom Crystal Oscillator

Series FCO-2LH

Differential Oscillator 2.5×2.0 mm



Feature

- Frequency support 285MHz, 312.5MHz
- Ultra low phase jitter: 40 fS, Max. RMS from 12kHz - 20MHz
- Tri-state enable/disable

Application

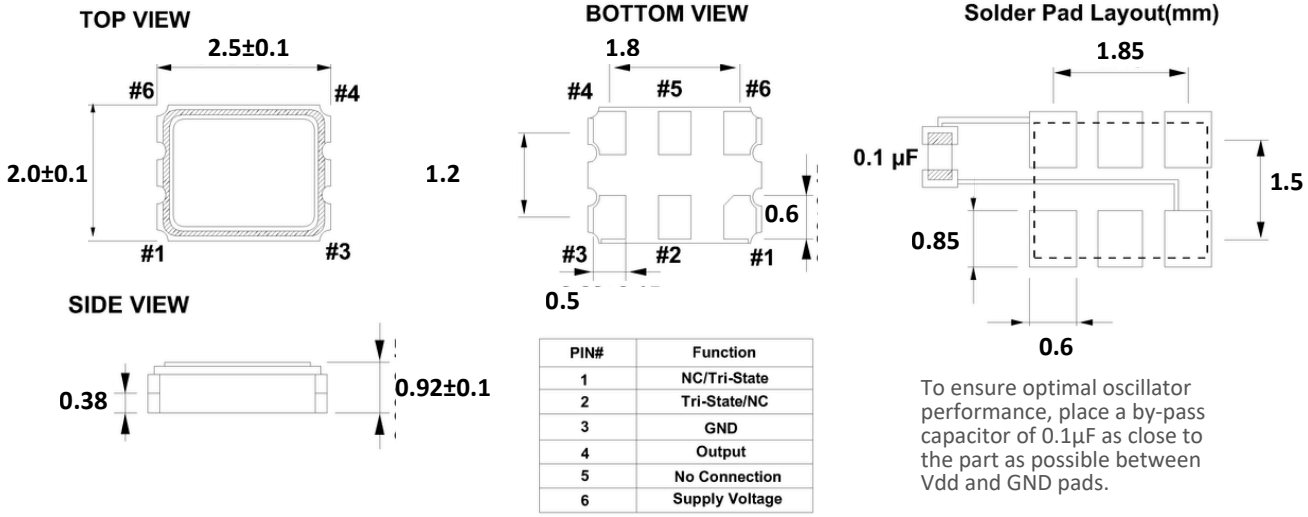
- 800Gbit/ 1.6Tbit Optical Module, Fiber Channel
- Network Equipment: Router, Switch
- Ethernet, MAN, SONET, Data Center
- Test Instrumentation

ELECTRICAL SPECIFICATIONS

Parameters		Symbol	LVPECL				Units	Notes	
			3.3V		2.5V				
			Min.	Max.	Min.	Max.			
Frequency Range		F	285, 312.5				MHz		Test condition Ambient temperature: 25 ± 5°C Relative humidity: 40% ~ 70%
Standard Frequency		F(ST)	285, 312.5				MHz		
Supply Current		Icc	-	65	-	65	mA		
Transition Time	Rise Time	Tr	-	0.4	-	0.4	nSec	Measured from 20% ~ 80%	
	Fall Time	Tf	-	0.4	-	0.4			
Output Level		VoH	Vdd-1.1	Vdd-0.7	Vdd-1.1	Vdd-0.7	V	Output High	
		VoL	Vdd-1.9	Vdd-1.5	Vdd-1.9	Vdd-1.5	V	Output Low	
Tri-State Mode		VIH	80% Vdd	-	80% Vdd	-	V	Enable	
		VIL	-	20% Vdd	-	20% Vdd	V	Disable	
Phase Noise		PN	Typ.	Max.	Typ.	Max.	dBc/Hz	At VDD=3.3V, fout=312.5MHz	
10 kHz			-135		-135				
100 kHz			-154	-	-154				
1 MHz			-160	-	-160				
RMS Phase Jitter 12 kHz~20 MHz		PJ		40 Max.		40 Max.	fSec		
Duty Cycle		TH/T	45 ~ 55				%		
Stand by Current		Icc(ST)	-	60	-	60	μA		
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)



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		1.8V				
		Min.	Max.	Min.	Max.	Min.	Max.			
Frequency Range	F	285, 312.5						MHz		
Standard Frequency	F(ST)	285, 312.5						MHz		
Supply Current	Icc	-	40	-	40	-	40	mA		
Transition Time	Tr	-	0.4	-	0.4	-	0.4	nSec	Measured from 20% ~ 80%	
	Tf	-	0.4	-	0.4	-	0.4			
Output Level	VoH	-	1.6	-	1.6	-	1.6	V		
	VoL	0.9	-	0.9	-	0.9	-	V		
Tri-State Mode	VIH	80% Vdd	-	80% Vdd	-	80% Vdd	-	V	Enable	Test condition Ambient temperature: 25 ± 5°C Relative humidity: 40% ~ 70%
	VIL	-	20% Vdd	-	20% Vdd	-	20% Vdd	V	Disable	
Phase Noise	PN	**Typ.**	**Max.**	**Typ.**	**Max.**	**Typ.**	**Max.**	dBc/Hz	At VDD=3.3V, fout=312.5MHz	
10 kHz		-147		-147		-146				
100 kHz		-156	-	-156		-156				
1 MHz		-158	-	-158		-158				
RMS Phase Jitter	PJ	-	40 Max.	-	40 Max.	-	40 Max.	fSec	Integrated 12 kHz~20 MHz @ 3.3V	
Duty Cycle	TH/T	45 ~ 55						%		
Stand by Current	Icc(ST)	60						µA	Max	
Output Load	RL	100Ω (Between OUT & OUTN)						Ω		
Start-up Time	Tosc	-	10	-	10	-	10	mSec		
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.