Differential Oscillator

YSO231LJ

Applications

- 10 GB Ethernet, SONET, SATA, SAS, Fibre Channel

Features

- Femto second integrated phase jitter (50 fs typical , 12 KHz to 20 MHz)
- Output LVPECL, LVDS or HCSL.
- Superior phase noise (-157 dBc/Hz at 100 KHz and -164 dBc/Hz at 10 MHz offset)
- Package Size: 2.5*2.0 ,3.2*2.5 , 5.0*3.2 7.0*5.0mm.

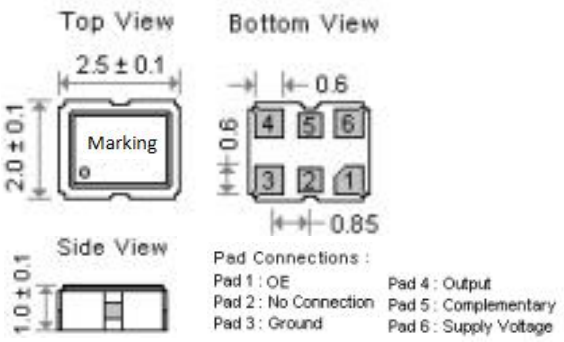
Specifications

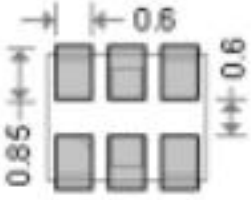
Item/Type	LVPECL	LVDS	HCSL
Output Frequency Range	100~250MHZ	100~250MHZ	100~175MHZ
Supply Voltage	2.5V, 3.3V	1.8V, 2.5V, 3.3V	1.8V, 2.5V, 3.3V
Operating Temperature Range	-40~+85℃,or specify		
Storage Temperature Range	-55~+150℃		
Total Stability	±25ppm, ±50ppm, ±100ppmor specify		
Current Consumption	52mA(Typ) 65mA(Max)	22mA(Typ) 30mA(Max)	32mA(Typ) 40mA(Max)
Output Swing (single-end)	400 mV (min.)	200 mV (min.)	450 mV (min.)
Output Load Condition	50 Ω into VDD - 2.0V or Thevenin equivalent	100 Ω between output and complimentary output	50 Ω to ground on each output
Duty Cycle	45~55%		
Rise Time/Fall Time(20%↔80% of waveform)	0.15ns(Typ) 0.4ns(Max)	0.15ns(Typ) 0.3ns(Max)	0.2ns(Typ) 0.6ns(Max)
Start-up time	1ms(Typ) 5ms(Max)		
Aging	±3ppm(Max)		
RMS Jitter (12 KHz to 20 MHz)	50 fsec (typ.) , 300 fsec (max.) [For 125 MHz , LVDS , 3.3V]		

Phase Noise[dBc / Hz (typ.)]	Offset	100Hz	1KHz	10KHz	100KHz	1MHz	10MHz
	125.0MHz	-114	-135	-147	-157	-163	-164
	156.250MHz	-108	-132	-141	-152	-160	-161

Dimensions and Patterns [unit:mm]

Package Size – Dimensions (Unit: mm)	Recommended Land Pattern (Unit: mm)
2.5*2.0mm	Land Pattern





Top View Suggested Layout

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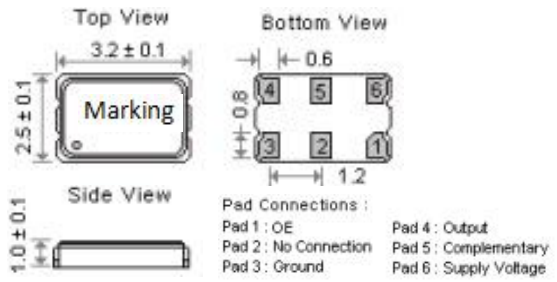
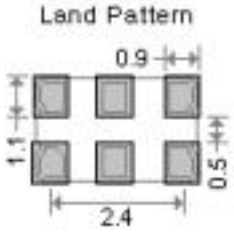
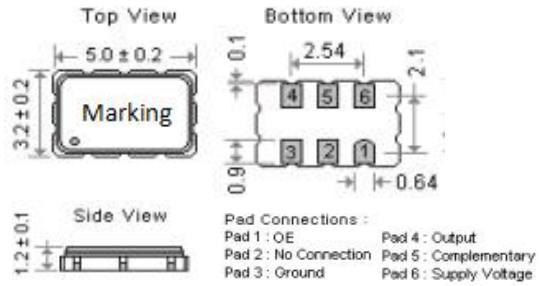
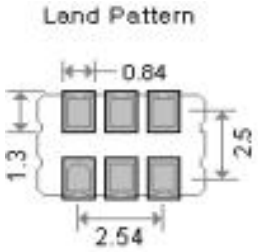
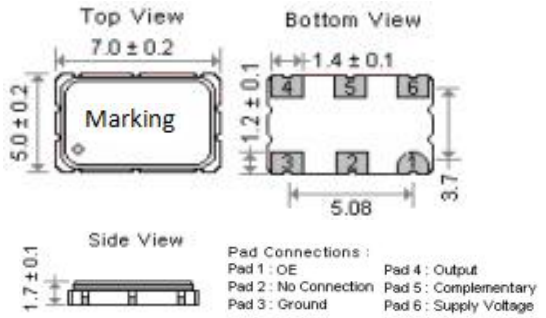
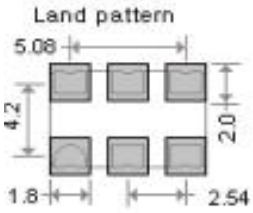
3.2*2.5mm 	 Top View Suggested Layout
5.0*3.2mm 	 Top View Suggested Layout
7.0*5.0mm 	 Top View Suggested Layout

Test Circuit

LVDS	LVPECL	HCSL