

Programmable Differential Oscillator YSV221PJ VCXO



Applications

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

Features

- Freq. Range: 15MHz ~ 2100MHz
- Output: LVPECL, LVDS, HCSL, CML
- Package Size: 5.0*3.2, 7.0*5.0mm
- Ultra-Low RMS Phase Jitter



Specifications (规格参数)

Item / Type	SMD VCXO	LVPECL	LVDS	HCSL	CML
Output Frequency Range 额定频率范围		15MHz ~ 2100MHz	15MHz ~ 2100MHz	15MHz ~ 700MHz	15MHz ~ 2100MHz
Supply Voltage 电源电压		2.5V, 3.3V	1.8V, 2.5V, 3.3V	1.8V, 2.5V, 3.3V	1.8V, 2.5V, 3.3V
Total Stability 频率偏差	±25ppm, ±50ppm, ±100ppm or specify				
Absolute Pull Range 牵引频率	±100ppm (min), ± 200 ppm (available)				
Operating Temperature Range 工作温度	-40 ~ +85°C, or specify				
Storage Temperature Range 储存温度	-55 ~ +150°C				
Current Consumption (VDD = + 3.3 V) 消耗电流	100mA (typ.) 120mA (max.)	75mA (typ.) 90mA (max.)	80mA (typ.) 100mA (max.)	70mA (typ.) 85mA (max.)	
Output Logic " High " , " 1 " 输出高电平	VDD - 1.165 V (min.) VDD - 0.8 V (max.)	VDD : 1.4V (typ.) VDD : 1.6 V (max.)	VDD: 0.66V (min.) VDD: 1.15V (max.)	VDD-0.085V (min.) VDD = (max.)	
Current with Output Disabled 禁用电流	99mA (typ.)	74mA (typ.)	79mA (typ.)	69mA (typ.)	
Output Logic " Low " , " 0 " 输出低电平	VDD - 2.0 V (min.) VDD - 1.55 V (max.)	VDD : 1.1 V (typ.) VDD : 0.9 V (min.)	VDD : -0.15V (min.) VDD : 0.15V (max.)	VDD - 0.6V (min.) VDD - 0.32V (max.)	
Output Voltage Swing 输出电压摆幅	595mV (min.) 930mV (max.)	250mV (min.) 450mV (max.)	450mV (min.) 700mV (typ.)	200mV (min.) 600mV (typ.)	
Output Load 输出负载	50Ω into VDD - 2V or Thevenin equivalent	100Ω between OUT and OUTN	50Ω to GND	50Ω to VDD	
Duty Cycle 占空比	45~55%				
Rise Time / Fall Time (20% to 80% Waveform) 上升沿/下降沿	0.4 nsec (max.) (10% to 90% Waveform)				
Start-up Time 启动时间	5 msec (typ.) ; 10 msec (max.)				

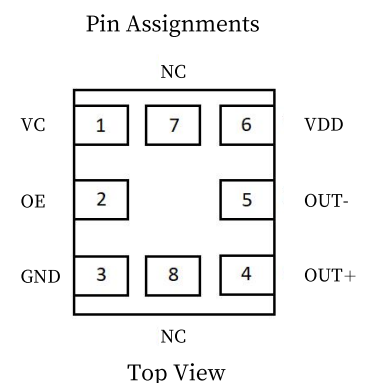
Programmable Differential Oscillator YSV221PJ VCXO



Item / Type	SMD VCXO	LVPECL	LVDS	HCSL	CML
Aging 老化率	± 3 ppm (max.) for first year ; ± 2 ppm (max.) per year thereafter				
RMS Jitter [12 KHz ~ 20 MHz] 相位抖动	156.250MHz: 159 fsec (typ.); 491.520MHz: 155 fsec (typ.) 644.530MHz: 151 fsec (typ.); 2000MHz: 163 fsec (typ.)				
Control Voltage Function on Pin 1					
Vcontrol Center 压控电压	+ 0.9 V for VDD = + 1.8 V	+ 1.25 V for VDD = + 2.5 V	+ 1.65 V for VDD = + 3.3 V		
Vcontrol Range 控制电压范围	+ 0.0V ~ +1.8V	+ 0.25V ~ +2.25V	+ 0.3V ~ +3.0V		
Linearity 线性	± 1% (typ.) ; ±10% (max.)				
Transfer Function 传递函数	Positive Transfer				
Input Impedance 输入阻抗	5 MΩ (min.)				
Bandwidth 带宽	10 KHz (typ.) Measured at -3 dB				
Output Enable Function on Pin 2					
Voltage VOH (Min.) / VOL (Max.) 输入电压	80% of VDD (min.) to enable output 20% of VDD (max.) to disable output				

Pin Dimension (脚位尺寸)

Pin	#1	#2	#3	#4
FUNCTION	Voltage Control	Output Enable	Ground	Output
Pin	#5	#6	#7	#8
FUNCTION	Complementary	Supply Voltage	No Connection	No Connection



Programmable Differential Oscillator YSV221PJ VCXO



Dimensions and Recommended Land Pattern (外观尺寸及推荐焊盘)

Dimensions (Unit: mm)	Recommended Land Pattern (Unit: mm)
<p>5.0*3.2mm</p> <p>Top view</p> <p>Bottom view</p> <p>Side view</p>	
<p>7.0*5.0mm</p> <p>Top view</p> <p>Bottom view</p> <p>Side view</p>	

Test Circuit (测试电路)

LVPECL	LVDS
<p>VDD=3.3V; R1=R3=127Ω; R2=R4=82.5Ω VDD=2.5V; R1=R3=250Ω; R2=R4=62.5Ω</p>	

Programmable Differential Oscillator YSV221PJ VCXO

