Differential Oscillator

YSO230LR

Applications

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

Features

- Freq range:13.5MHz-200MHz.
- Output LVPECL or LVDS.
- Package Size: 2.5*2.0 ,3.2*2.5 , 5.0*3.2 7.0*5.0mm.

Specifications

Item/Type	LVPECL		LVDS		Remarks	
	7050/5032	3225/2520	7050/5032	3225/2520		
Output Frequency Range	13.5~200MHZ	13.5~156.25MHZ	13.5~200MHZ	13.5~156.25MHZ		
Supply Voltage	2.5V~3.3V		1.8V, 2.5V~3.3V			
Operating Temperature Range	-40~+85℃,or specify					
Storage Temperature Range	-55~+125℃					
Total Stability	±50ppm					
Current Consumption	80mA Max	50mA Max	60mA Max	40mA Max	OE=Vcc,LVPECL=(50)Ω or LVDS=(100)Ω	
Disable Current	10uA Max				OE=GND	
Output Voltage (LVPECL)	VOH=Vcc-1.03 Min		--		DC characteristics	
	VOL=Vcc-1.6 Max		--			
Output Voltage (LVDS)	--		VOD= 247~454mV		VOD1, VOD2	DC characteristics
	--		dVOD=50mV Max.		dVOD=|VOD1-VOD2|	
	--		VOS= 1.125~1.375V		VOS1, VOS2	
	--		dVOS=50mV Max.		dVOS=|VOD1-VOD2|	
Output Load Condition	L_PECL=50Ω		--		Terminated to Vcc-2.0V	
	--		L_LVDS=100Ω		Connected between OUT to OUT	
Input Voltage	VIH=70% VccMin, VIL=30%Vcc Max				OE terminal	
Output Symmetry	45~55%					
Rise Time/Fall Time	0.8nS Max				LVPECL: Between 20% and 80% of (VOH-VOL), LVDS:Between 20% and 80% Differential Output peak to peak voltage	
Start-up time	10mS				Time at minimum supply voltage to be 0 s	
Aging	±3ppm				25℃First year, Vcc=2.5V,3.3V	
Phase Jitter(12KHZ~20MHZ)	100MHZ	125MHZ	148.5MHZ	156.25MHZ	180MHZ	200MHZ
	0.3ps Typ.	0.1ps Typ.				

Pin Dimension

Pin	#1	#2	#3	#4	#5	#6
FUNCTION	OE	NC	GND	OUT+	OUT-	VDD

Notes: To maintain stable operation provide a 0.01uF to 0.1uF by-pass capacitor at a location as near as possible to the power source terminal of the crystal product (between Vcc-GND).

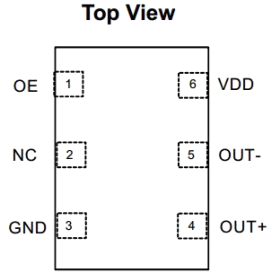

Figure 1. Pin Assignments

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Dimensions and Patterns [unit:mm]

Package Size – Dimensions (Unit: mm)	Recommended Land Pattern (Unit: mm)
2.5*2.0mm	
3.2*2.5mm	
5.0*3.2mm	
7.0*5.0mm	

Notes:
1.A capacitor of value 0.01uf~0.1uf or higher between Vdd and GND is required.

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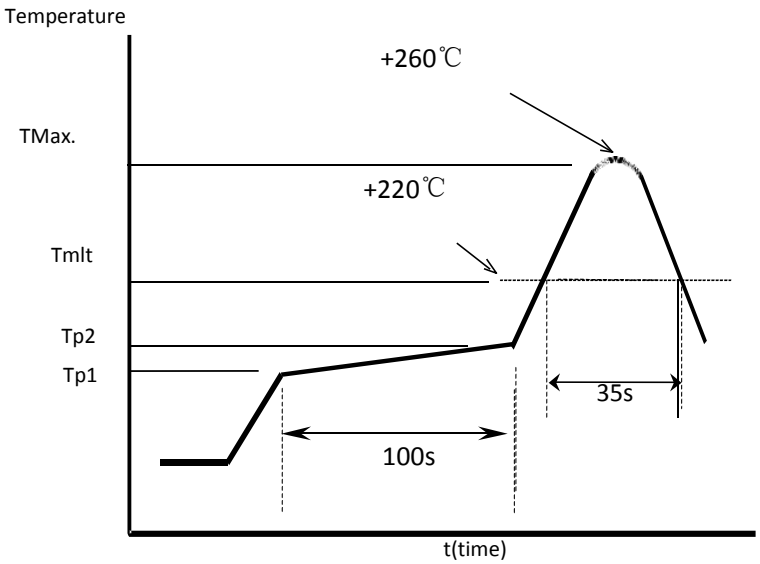
Reflow Soldering Profile

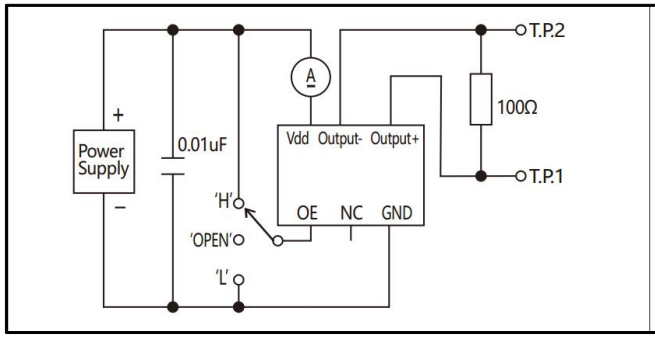
Pre Heating Temperature Tp1 ~ Tp2 = + 170 °C
Heating Temperature
TMlt = + 220 °C
Peek Temperature
TMax. = + 260 °C

Point of measuring
In case of Solder ability Terminal.
In case of Resistance to soldering heat Surface.

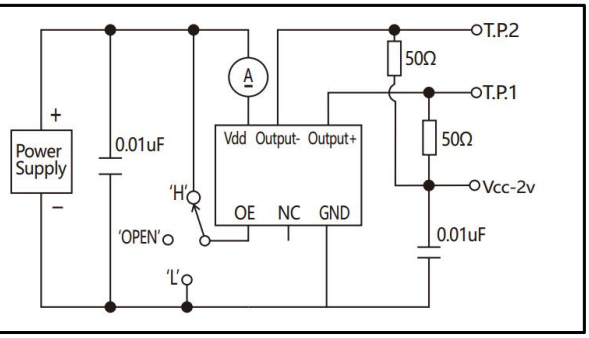


Test Circuit

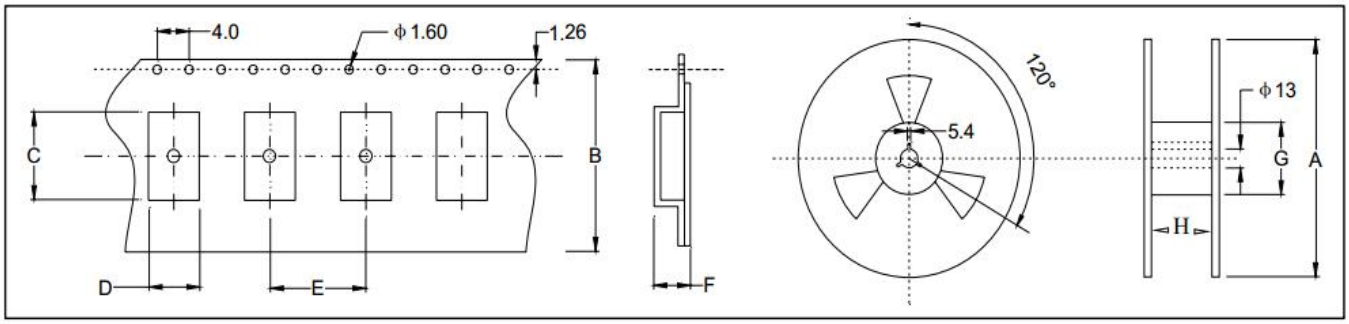
LVDS



LVPECL



Taping Specification(Unit: mm)



Size(OSC)	A	B	C	D	E	F	G	H
SMD-7050	180±2.0	16.0±0.3	7.50±0.1	5.50±0.1	8.0±0.1	2.00±0.1	61.0±1.0	16.0±1.0
SMD-5032	180±2.0	12.0±0.3	5.40±0.1	3.60±0.1	8.0±0.1	1.70±0.1	61.0±1.0	12.0±1.0
SMD-3225	180±2.0	8.0±0.3	3.40±0.1	2.70±0.1	4.0±0.1	1.50±0.1	61.0±1.0	8.0±1.0
SMD-2520	180±2.0	8.0±0.3	2.90±0.1	2.40±0.1	4.0±0.1	1.20±0.1	61.0±1.0	8.0±1.0