

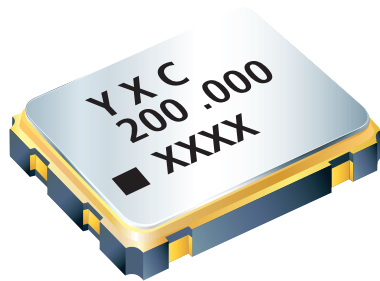


给您一颗快乐的“芯”！

# YSO680PR



## Features



- Quartz Crystal Programmable Oscillator
- Any frequency between 1MHz~200MHz accurate to 6 decimal places
- Operating temperature from -40 to +85
- Period Jitter, Typical: 40pSec at 12KHz to 20MHz
- CMOS compatible output
- Industry-standard packages: 2.5 x 2.0 , 3.2 x 2.5 , 5.0 x 3.2 , 7.0 x 5.0 mm x mm

## Applications:

- Ideal for DSC, DVC, DVR, IP CAM, Tablets, e-Books, SSD, GPON, EPON, etc
- Ideal for high-speed serial protocols such as : USB, SATA, SAS,

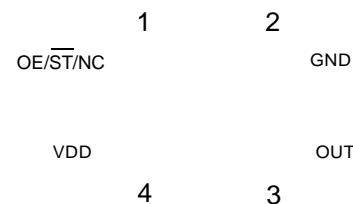
## Electrical Specifications

All Min and Max limits are specified over temperature and rated operating voltage with 15 pF output load unless otherwise stated. Typical values are at 25°C and nominal supply voltage.

Parameter	1.8 V	2.5 V	3.3 V
Frequency Range	1MHz~110MHz	1MHz~166MHz	1MHz~200MHz
Supply Voltage Variation(Vdd)10%	1.62 V~1.98 V	2.25 V~2.75 V	2.97 V~3.63 V
Standby Current	15 μF		
Frequency Tolerance	± 20ppm, ± 25ppm, ± 50ppm, or specify		
Output Load	15 pF , or specify		
Operating Temperature Range	- 40 ~ + 85 °C, or specify		
Storage Temperature Range	- 55 ~ + 125 °C		
Voltage Vol ( Max. ) / Vol ( Min. )	90%Vdd Min./10%Vdd Max		
Duty Cycle	45~55%		
Period Jitter(@12K-20Mhz)	40pSec Typical		
Start-up Time	5msMax.		
Supply Current	See Below		
Frequency Aging ( at 25 °C )	± 3 ppm / year Max.		

## Pin Description

Pin	Symbol		Functionality
1	OE/ $\overline{ST}$ /NC	Output Enable	H : specified frequency output L : output is high impedance. Only output driver is disabled.
		Standby	H : specified frequency output L : output is low (weak pull down). Device goes to sleep mode. Supply current reduces to I <sub>std</sub> .
		No Connect	Any voltage between 0 and Vdd or Open : Specified frequency output. Pin 1 has no function.
2	GND	Power	Electrical ground
3	OUT	Output	Oscillator output
4	VDD	Power	Power supply voltage



Pin Assignments



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## Dimensions and Patterns

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

**Notes:**

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



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## Performance Plots

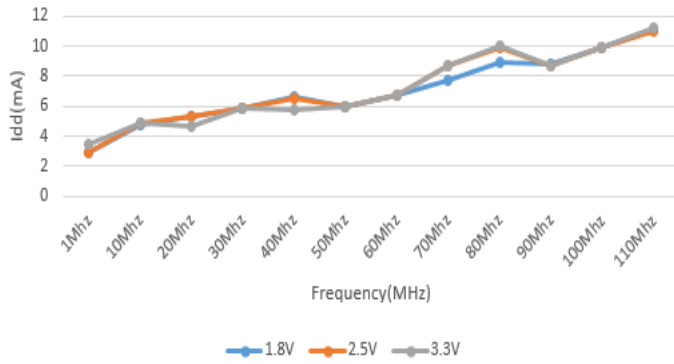


Figure 1. Idd vs Frequency

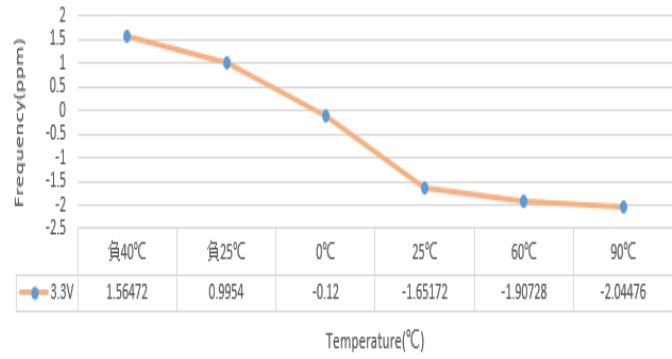


Figure 2. Frequency vs Temperature

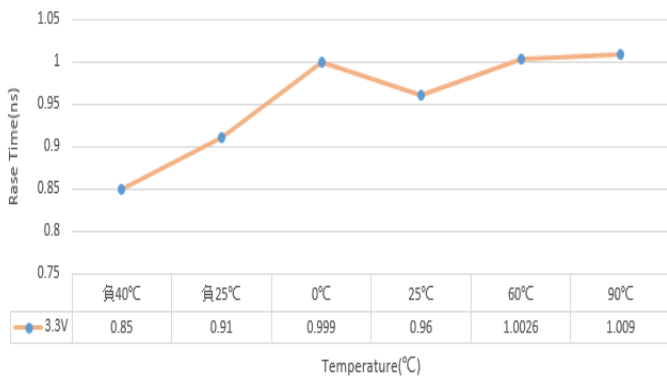


Figure 3. 20%-80% Rise Time vs Temperature

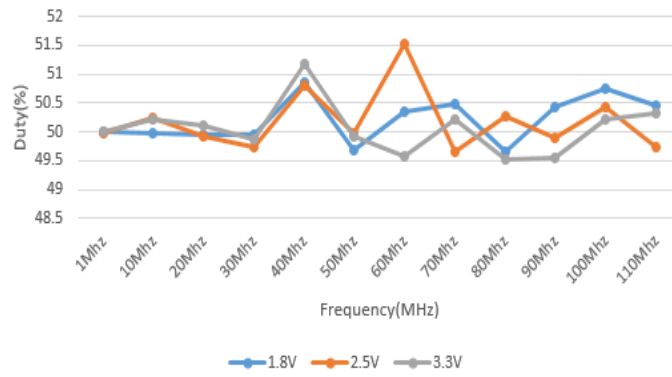


Figure 4. Duty Cycle vs Frequency

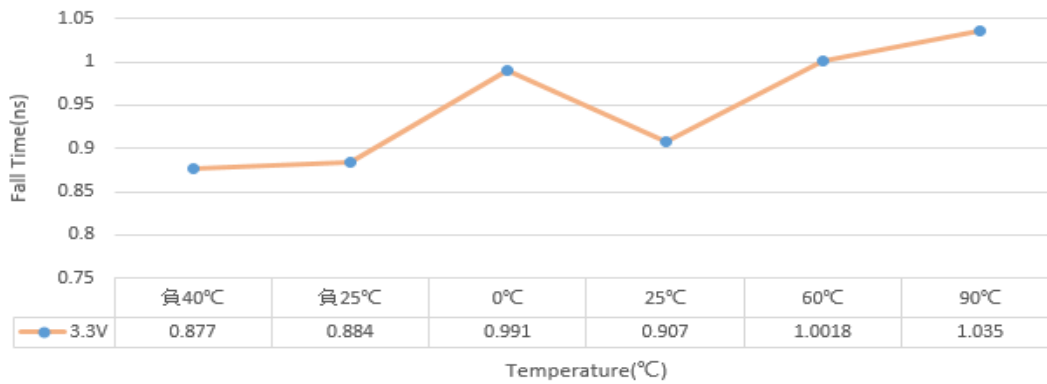


Figure 5. 20%-80% Fall Time vs Temperature

**Notes:**

- All plots are measured with 15 pF load at room temperature, unless otherwise stated.
- Phase noise plots are measured with Agilent E5052B signal source analyzer. Integration range is up to 5 MHz for carrier frequencies below 40 MHz.

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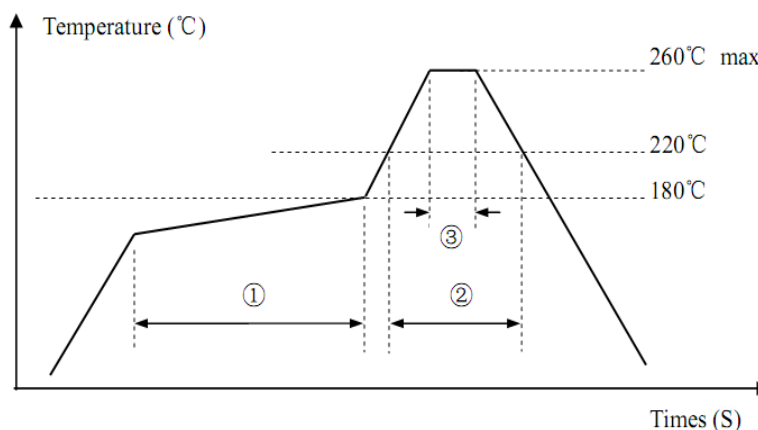
★ PART NUMBER GUIDE 部件号示例 e.g. OP7050200MEDA4SI - u YSO680PR=7.0 ×5.0 SMD SEAM TYPE

Quartz Crystal Oscillator	Dimensions	Frequency (Hz)	Supply voltage (V)	Frequency Stability Overall (ppm)	output	Pin	Material	Operating Temp. Range	-	Remark
OP	7050	200M	E	D	A	4	S	I	.	u

★ INPUT CURRENT 工作电流

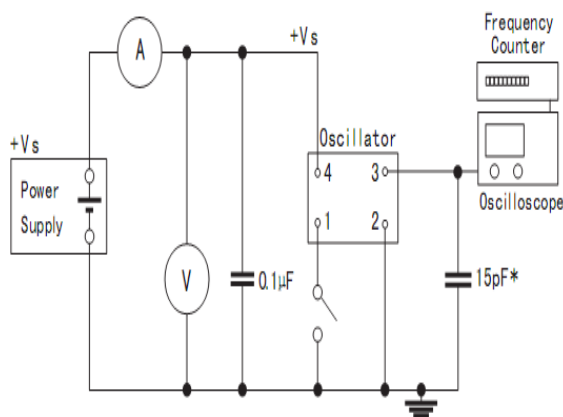
Supply Voltage	Power Dissipation				
	1.000 ~ 30.000 MHz	30.000 ~ 75.000 MHz	75.000 ~ 110.000 MHz	133.000 ~ 166.000 MHz	166.000 ~ 200.000 MHz
1.8 V	6 mA max	8 mA max	12 mA max	—	—
2.5 V	8 mA max	10 mA max	15 mA max	15 mA max	—
3.3 V	10 mA max	15 mA max	20 mA max	22 mA max	25 mA max

★ REFLOW SOLDERING PROFILE 回流焊特性



Pb free reflow A	①	Preheat	160~180°C	120sec. max
	②	Primary heat	220°C	60sec. max
	③	Peak	260°C	10sec. max.

★ Test Circuit 测试电路



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