



给您一颗快乐的“芯”！

YSO690PR



Features



- Quartz Crystal Programmable Oscillator
- Any frequency between 1MHz~200MHz accurate to 6 decimal places
- Operating temperature from -40 to +85
- Period Jitter, Typical: 1pSec at 12KHz to 20MHz
- CMOS compatible output
- Industry-standard packages: 2.0x1.6 , 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~125MHz | 1MHz~200MHz | 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 | 400 μA | | |
| 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 ~ +150 °C | | |
| Voltage Vol (Max.) / Vol (Min.) | VOH = 90%Vdd/VOL = 10%Vdd | | |
| Duty Cycle | 45~55% | | |
| Period Jitter(@12K-20Mhz) | 1.8V=1.5ps 2.5V=1.1ps 3.3V=1ps | | |
| Start-up Time | 7ms Max. | | |
| 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 low. Specified frequency output stop. |
| | | Standby | H : specified frequency output L : output is low. Device goes to sleep mode. Supply current reduces to 400uA(Standby Current). |
| | | No Connect | Pin 1 = VDD or Pin 1 is 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) |
|--------------------------------------|-------------------------------------|
| 2.0 x 1.6 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 for higher between Vdd and GND is required.

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★ PART NUMBER GUIDE 部件号示例 e.g. O97050200MEDA4SI-* YSO690PR=7.0 ×5.0 SMD SEAM TYPE

| Quartz Crystal Oscillator | Series | Dimensions | Frequency (Hz) | Supply voltage (V) | Frequency Stability Overall (ppm) | output | Pin | Material | Operating Temp. Range | - | Remark |
|---------------------------|--------|------------|----------------|--------------------|-----------------------------------|--------|-----|----------|-----------------------|---|--------|
| O | 9 | 7050 | 200M | E | D | A | 4 | S | I | - | * |

★ INPUT CURRENT 工作电流

| Supply Voltage | Power Dissipaton | | | | |
|----------------|--------------------|---------------------|----------------------|-----------------------|-----------------------|
| | 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 | 18 mA max | 19 mA max | 20 mA max | 20 mA max | 20 mA max |
| 2.5 V | 21 mA max | 22mA max | 23 mA max | 24mA max | 25mA max |
| 3.3 V | 23 mA max | 24 mA max | 25 mA max | 26 mA max | 27 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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