

2.5V CMOS Low-Jitter 62.5 MHz SAS-2 XO

FDSAS2062



5.0 x 3.2mm Ceramic SMD

ASSP XO™ for Storage



Product Features

- Very low phase jitter - 0.5ps RMS
- Thicker crystal for improved reliability
- Low output current - 15mA max.
- Low power stand by mode
- Industrial Temperature Range
- Pb-free & RoHS compliant

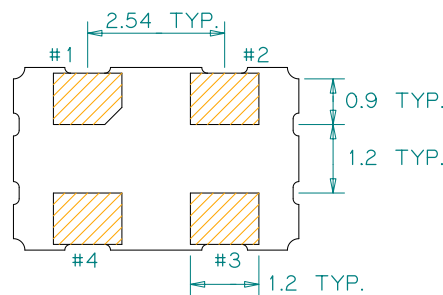
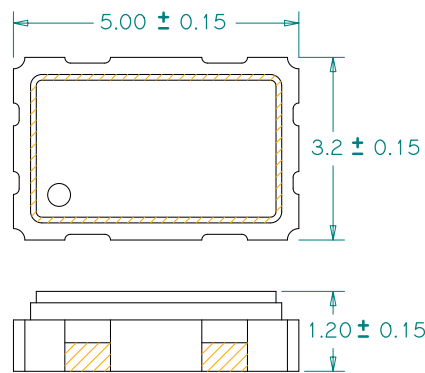
Product Description

This is an enhanced high-frequency 2.5V, 62.5MHz crystal clock oscillator with superb jitter and low operating current for Serial Attached SCSI (SAS-1 & SAS-2) applications. The output clock signal, generated internally with a patented oscillator design, is compatible with LVCMOS logic levels.

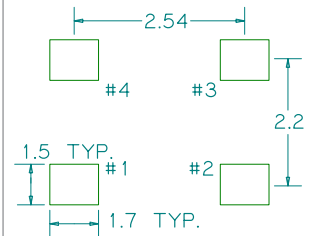
Applications

- SAS-2 Hard Disk Drive

Package:



Recommended Land Pattern:



Pin Functions:

| Pin | Function |
|-----|-----------------|
| 1 | OE Function |
| 2 | Ground |
| 3 | Clock Output |
| 4 | V _{DD} |

*Extended high frequency power decoupling is recommended (see test circuit for minimum recommendation). To ensure optimal performance, do not route RF traces beneath the package.

Part Ordering Information:
FDSAS2062

Electrical Performance

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---------------------------------|--------------|------|--------------|-------|--------------------------------|
| Output Frequency | | 62.5 | | MHz | |
| Supply Voltage | 2.375 | 2.5 | 2.625 | V | |
| Supply Current, Output Enabled | | | 15 | mA | |
| Supply Current, Output Disabled | | | 10 | μA | |
| Frequency Stability | | | ±50 | ppm | See Note 1 below |
| Operating Temperature Range | -20 | | +70 | °C | |
| Output Logic 0, V_{OL} | | | 10% V_{DD} | V | |
| Output Logic 1, V_{OH} | 90% V_{DD} | | | V | |
| Output Load | | | 15 | pF | |
| Duty Cycle | 45 | | 55 | % | Measured 50% V_{DD} |
| Rise and Fall Time | | | 2 | ns | Measured 20/80% of waveform |
| Jitter, Phase RMS (1-σ) | | 0.2 | 0.5 | ps | 12kHz to 20 MHz frequency band |
| Jitter, pk-pk | | 21 | 30 | ps | 100.000 random periods |

Notes:

- Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (1 year at 25°C average effective ambient temperature), shock and vibration.
- For specifications other than those listed, please contact sales.

Output Enable / Disable Function

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---|--------------|------|--------------|-------|----------------|
| Input Voltage (pin 1), Output Enable | 0.7 V_{DD} | | | V | or open |
| Input Voltage (pin 1), Output Disable (low power standby) | | | 0.3 V_{DD} | V | Output is Hi-Z |
| Internal Pullup Resistance | 30 | | | kΩ | |
| Output Disable Delay | | | 200 | ns | |
| Output Enable Delay | | | 2 | ms | |

Absolute Maximum Ratings

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---------------------|------|------|------|-------|-------|
| Storage Temperature | -55 | | +125 | °C | |

For the latest product information visit: <http://www.pericom.com/products/timing/oscillators/FDSAS2062/>

For test circuit go to: http://www.pericom.com/pdf/sre/tc_hcm0s.pdf

For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow.pdf>

For typical phase noise go to: http://www.pericom.com/pdf/sre/pn_FDSAS2062.pdf

For tape and reel information go to: http://www.pericom.com/pdf/sre/tr_5032_xo.pdf