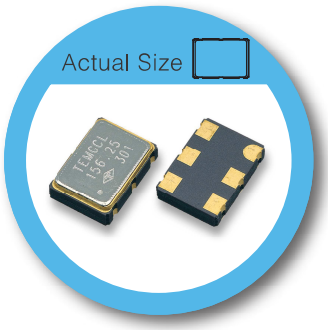
# SOC7 SMD Clock Oscillator

## LVPECL/LVDS

**SHOULDER**




RoHS Compliant

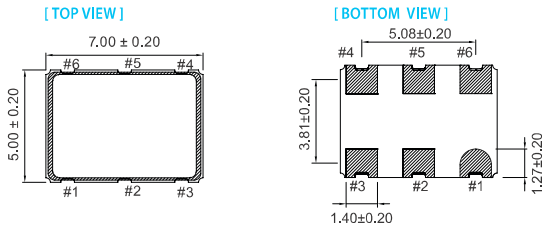
### FEATURE

- Typical 7.0 x 5.0 x 1.75 hermetically sealed ceramic package
- Very low phase jitter : < 1 ps(0.6 ps, typ.) RMS
- Any frequency between 8 MHz and 1500 MHz.
- Tri-state enable/disable
- Fast deliver

### TYPICAL APPLICATION

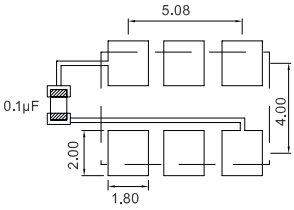
- High-Speed Gigabit Ethernet, Fiber Channel, Storage Area Network, SONET
- Enterprise Server, SAS/SATA
- Microprocessors/DSP/FPGA
- Broadband Access
- Smart Grid

### DIMENSION (mm)




| Pin# | Function |
|---|---|
| 1 | NC/Tri-State |
| 2 | Tri-State/NC |
| 3 | GND |
| 4 | Output |
| 5 | Comp.Output |
| 6 | VDD |

### SOLDER PAD LAYOUT (mm)




To ensure optimal oscillator performance, place a by-pass capacitor of 0.1μF as close to the part as possible between Vdd and GND pads.

### ELECTRICAL SPECIFICATION

| Parameter | LVPECL 3.3 V Min. | LVPECL 3.3 V Max. | LVPECL 2.5 V Min. | LVPECL 2.5 V Max. | LVDS 3.3 V Min. | LVDS 3.3 V Max. | LVDS 2.5 V Min. | LVDS 2.5 V Max. | unit |
|---|---|---|---|---|---|---|---|---|---|
| Supply Voltage Variation ($V_{DD}$) ±5% | 3.135 | 3.465 | 2.375 | 2.625 | 3.135 | 3.465 | 2.375 | 2.625 | V |
| Frequency Range | 8 | 1500 | 8 | 1500 | 8 | 1500 | 8 | 1500 | MHz |
| Standard Frequency | 106.25, 125, 133.33, 150, 155.52, 156.25, 187.5, 212.5, 312.5, 622.08 | | | | | | | | MHz |
| Supply Current 8 MHz ≦ Fo ≦ 1500 MHz | – | 50 | – | 50 | – | 50 | – | 50 | mA |
| Output Level Output High (Logic "1") | 2.275 | – | 1.475 | – | – | 1.6 | – | 1.6 | V |
| Output Low (Logic "0") | – | 1.68 | – | 0.88 | 0.9 | – | 0.9 | – | V |
| Transition Time: Rise/Fall Time+ | – | 1.0 | – | 1.0 | – | 1.0 | – | 1.0 | nSec |
| Start Time | – | 10 | – | 10 | – | 10 | – | 10 | mSec |
| Tri-State(Input to Pin 2 or Pin 1) | | | | | | | | | |
| Enable (High voltage or floating) | 2.31 | – | 1.75 | – | 2.31 | – | 1.75 | – | V |
| Disable (Low voltage or GND) | – | 0.99 | – | 0.75 | – | 0.99 | – | 0.75 | V |
| RMS Phase Jitter (Integrated 12 KHz ~ 20 MHz) | – | 1 | – | 1 | – | 1 | – | 1 | pSec |
| Phase Noise @ 156.25 MHz 100Hz | -94 | | -94 | | -94 | | -94 | | dBc/Hz |
| 1 kHz | -113 | | -113 | | -113 | | -112 | | dBc/Hz |
| 10 kHz | -122 | | -122 | | -122 | | -122 | | dBc/Hz |
| Aging (@ 25°C 1st year) | – | ±3 | – | ±3 | – | ±3 | – | ±3 | ppm |
| Storage Temp. Range | -55 | 125 | -55 | 125 | -55 | 125 | -55 | 125 | °C |

+ Transition times are measured between 20% and 80% of $V_{DD}$.

### FREQ. STABILITY vs. TEMP. RANGE

| Temp. (°C) \ ppm | ±25 | ±50 |
|---|---|---|
| -10 ~ +60 | ○ | ○ |
| -20 ~ +70 | ○ | ○ |
| -40 ~ +85 | △ | ○ |

* ○: Available △:Conditional X: Not available
* Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration

**Note: not all combination of options are available. Other specifications may be available upon request.**

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