



REV O Dec 01 2016

Oscilent Controlled Document

| Series Number | Product Description                                |
|---------------|--|
| 1193-1        | MEMS Oscillator Differential Output 5.0x7.0x0.90mm |

## Contents

- o Part Number Builder
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- o Package Size and Recommended Land Pattern
- o Electrical Specifications

## Features

- o 25 ~ 212.5 MHz standard frequencies
- o LVDS / LVPECL outputs
- o 0.6ps RMS phase jitter (random) over 12kHz to 20 MHz bandwidth
- o Low frequency stability
- o RoHS Compliant / Pb Free

## Application

- o SONET
- o SATA
- o SAS
- o Fiber Channel
- o Telecom
- o Network
- o Servers
- o Storage





Series Number  
**1193-1**

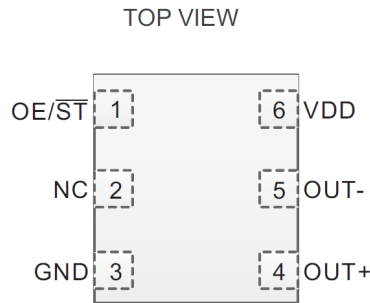
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**MEMS Oscillator Differential Output 5.0x7.0x0.90mm**

### Part Number Builder

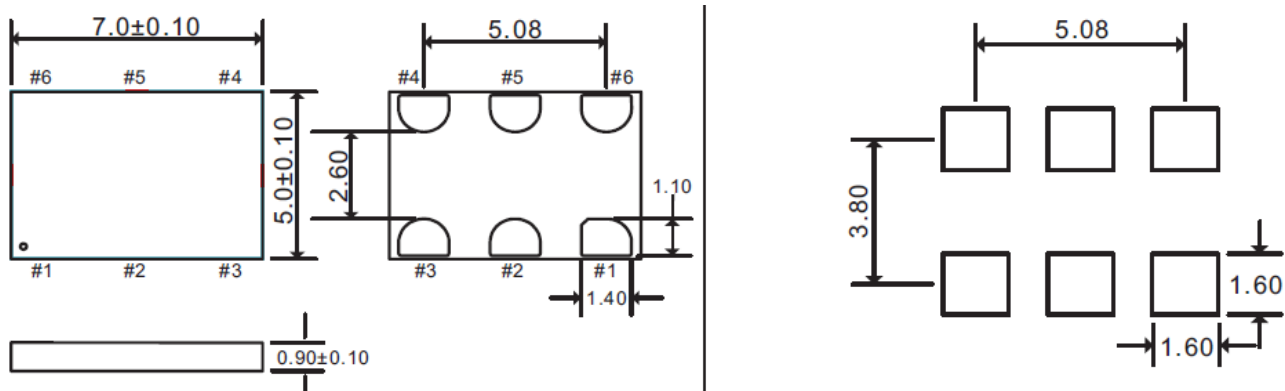
| Series Number     | Select Frequency | Supply Voltage       | Frequency Stability                                      | Operating Temperature          | Pin 1 Function                     | Packaging                       |
|-------------------|------------------|----------------------|--|--------------------------------|------------------------------------|---------------------------------|
| <b>1193 – 1 –</b> | <b>M</b>         | –                    |  |                                | –                                  | –                               |
| Enter Frequency   |                  | 6 = 2.5V<br>3 = 3.3V | E = ±50 ppm<br>F = ±25 ppm<br>G = ±20 ppm<br>H = ±10 ppm | D = -20~+70°C<br>N = -40~+85°C | OE = Output Enable<br>ST = Standby | TR = Tape +Reel<br>Blank = Bulk |

### Pin Description



| Pin | Sym  |        | Function  |
|-----|------|--------|---|
| 1   | OE   | Input  | H or Open: specified frequency output<br>L: output is high impedance  |
|     | ST   | Input  | H or Open: specified frequency output<br>L: Device goes to sleep mode. Supply current reduces to I <sub>std</sub> |
| 2   | NC   | NA     | No Connect: Leave floating or connect to GND for better heat dissipation  |
| 3   | GND  | Power  | VDD Power Supply Ground   |
| 4   | OUT+ | Output | Oscillator Output   |
| 5   | OUT- | Output | Complementary Oscillator Output   |
| 6   | VDD  | Power  | Power Supply Voltage  |

### Package Size and Recommended Land Pattern





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## Electrical Specifications

| Parameters Description            |   |             |
|-----------------------------------|---|-------------|
| Frequency Output                  | 25-212.5MHz                                   |             |
| Output Type                       | LVPECL  | LVDS        |
| Frequency Stability               | ±10ppm, ±20ppm, ±25ppm, ±50ppm (custom avail) |             |
| Operating Temperature Range       | -20~+70°C / -40~+85°C                         |             |
| Supply Voltage                    | 2.5V / 3.3V                                   |             |
| Input High Voltage                | 70% VDD                                       |             |
| Input Low Voltage                 | 30% VDD                                       |             |
| Input Pull-up Impedance           | 100KΩ Typ.                                    |             |
| Startup Time                      | 10ms Max.                                     |             |
| Resume Time                       | 10ms Max.                                     |             |
| Duty Cycle                        | 45-55%  |             |
| Current Consumption               | 69mA Max.                                     | 55mA Max.   |
| OE Disable Supply Current         | 35mA Max.                                     |             |
| Output Disable Leakage Current    | 1μA Max.                                      |             |
| Standby Current                   | 100μA Max.                                    |             |
| Maximum Output Current            | 30mA Max.                                     | -           |
| Output High Voltage               | Vdd-1.1 ~ Vdd-0.7                             | -           |
| Output Low Voltage                | Vdd-1.9 ~ Vdd-1.5                             | -           |
| Output Differential Voltage Swing | 2.0V Max.                                     | -           |
| Rise/ Fall Time                   | 300ps Typ.                                    | 495ps Typ.  |
| OE Enable/ Disable Time           | 115ns Max.                                    |             |
| RMS Period Jitter                 | 1.7ps Max.                                    |             |
| RMS Period Jitter (random)        | 0.85ps Max.                                   |             |
| Differential Output Voltage       | -   | 450mV Max.  |
| VOD Magnitude Change              | -   | 50mV Max.   |
| Offset Voltage                    | -   | 1.375V Max. |
| VOS Magnitude Change              | -   | 50mV Max.   |
| Storage Temperature Range         | -65~+150°C                                    |             |