

# 250.00 MHz LVDS Oscillator

High Performance Differential Oscillator

## 4MA250000Z4

### ADVANCE DATASHEET

#### **Features**

- Frequency:
- Output Type:
- Frequency Stability:
- Supply Voltage: • Standard Packages:

• RMS phase jitter:

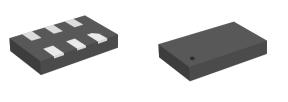
± 50ppm

LVDS

250.00 MHz

- 2.5V & 3.3V

- Operating Temperature:
- 5.0 x 3.2 mm; 7.0 x 5.0 mm 0.7ps typical (12k to 20MHz) - 40 to 85 °C



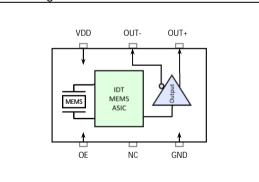
This product is rated "Green", please contact IDT for environmental compliancy information

#### Specification

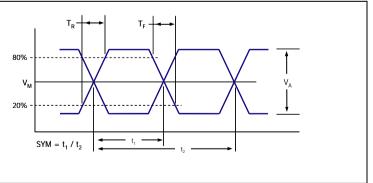
| Parameter                         | 2.5 V<br>Specifications |        |                    | 3.3 V<br>Specifications |        |                    | Units | Conditions   |
|-----------------------------------|-------------------------|--------|--------------------|-------------------------|--------|--------------------|-------|--|
|                                   | Min                     | Тур    | Max                | Min                     | Тур    | Max                | 5     |  |
| Supply Voltage (V <sub>DD</sub> ) |                         | 2.50   |                    |                         | 3.30   |                    | V     |  |
| Output Frequency                  |                         | 250.00 |                    |                         | 250.00 |                    | MHz   |  |
| Frequency Stability               |                         |        | ± 50               |                         |        | ± 50               | ppm   | -40 to 85°C  |
| Supply Current                    |                         | 95     |                    |                         | 95     |                    | mA    | No load  |
| Input LOW level                   |                         |        | $0.3V_{\text{DD}}$ |                         |        | $0.3V_{\text{DD}}$ | V     | At OE pin  |
| Input HIGH level                  | $0.\ 7V_{\text{DD}}$    |        |                    | $0.\ 7V_{\text{DD}}$    |        |                    | V     | At OE pin  |
| Output LOW level                  |                         | 1.075  |                    |                         | 1.075  |                    | V     |  |
| Output HIGH level                 |                         | 1.425  |                    |                         | 1.425  |                    | V     |  |
| Amplitude (V <sub>A</sub> )       |                         | 0.35   |                    |                         | 0.35   |                    | V     | Single Ended output swing (Pk-Pk)                          |
| Mid Level (V <sub>M</sub> )       |                         | 1.25   |                    |                         | 1.25   |                    | V     |  |
| Rise Time (T <sub>R</sub> )       |                         | 400    |                    |                         | 400    |                    | ps    | Maximum; 20/80% of V <sub>A</sub> ; Output load (CL) = 2pF |
| Fall Time (T <sub>F</sub> )       |                         | 400    |                    |                         | 400    |                    | ps    | Maximum; 20/80% of V <sub>A</sub> ; Output load (CL) = 2pF |
| Symmetry (SYM)                    | 45                      |        | 55                 | 45                      |        | 55                 | %     | Worst case; measured at 50% of waveform                    |
| Period Jitter                     |                         | 5      |                    |                         | 5      |                    | ps    | Measured over 10k cycles, rms                              |
| Phase Jitter                      |                         |        | 1                  |                         |        | 1                  | ps    | 12k to 20MHz, rms  |
| Aging                             |                         |        | ± 5                |                         |        | ± 5                | ppm   | 25°C, 10 years   |

Note: Above specifications are typical at room temperature (25°C) unless otherwise specified. Frequency stability includes initial frequency tolerance, temperature variation, supply voltage variation, reflow drift, and aging (+25 °C, 10 years).

#### Block Diagram

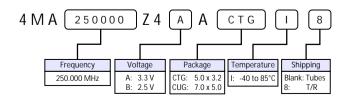


#### **Output Waveform**

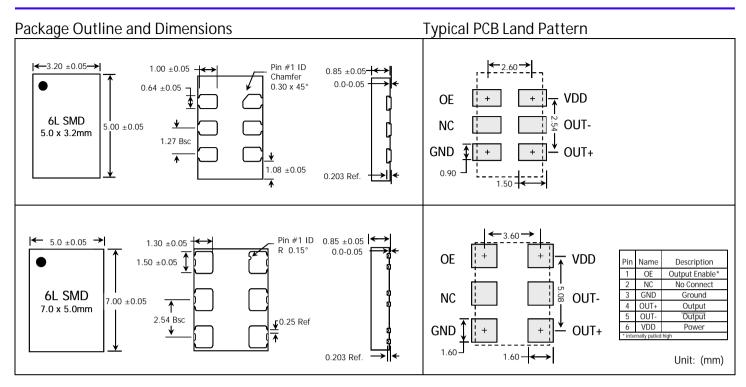


#### Part Ordering Information

| Package Size    | Voltage | Ordering Code     |
|-----------------|---------|-------------------|
| 5.0 x 3.2 mm    | 3.3 V   | 4MA250000Z4AACTGI |
| 5.0 X 5.2 MM    | 2.5 V   | 4MA250000Z4BACTGI |
| 7.0 x 5.0 mm    | 3.3 V   | 4MA250000Z4AACUGI |
| 7.0 X 5.0 Milli | 2.5 V   | 4MA250000Z4BACUGI |



#### Datasheet 250.00 MHz LVDS Oscillator





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