250.00 MHz LVPECL Oscillator

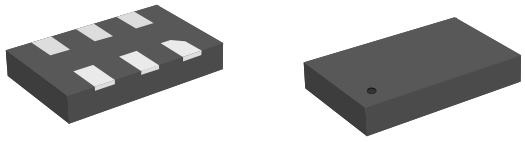
4MA250000Z3

High Performance Differential Oscillator

ADVANCE DATASHEET

Features

- Frequency: 250.00 MHz
- Output Type: LVPECL
- Frequency Stability: ± 50ppm
- Supply Voltage: 2.5V & 3.3V
- Standard Packages: 5.0 x 3.2 mm; 7.0 x 5.0 mm
- RMS phase jitter: 0.7ps typical (12k to 20MHz)
- Operating Temperature: - 40 to 85 °C



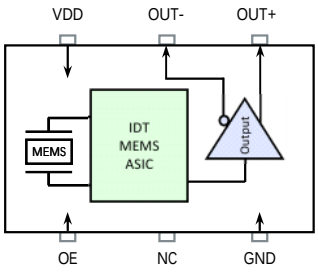
This product is rated "Green", please contact IDT for environmental compliancy information

Specification

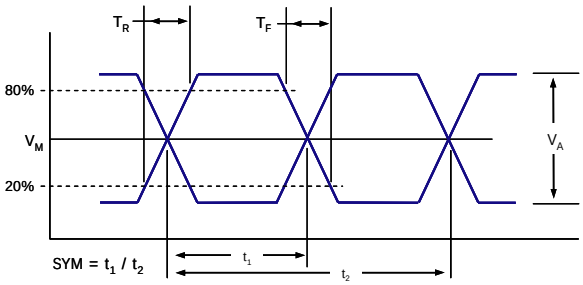
Parameter	2.5 V Specifications			3.3 V Specifications			Units	Conditions
	Min	Typ	Max	Min	Typ	Max		
Supply Voltage (V_{DD})		2.50			3.30		V	
Output Frequency		250.00			250.00		MHz	
Frequency Stability			± 50			± 50	ppm	-40 to 85°C
Supply Current			100			100	mA	no load
Input LOW level			$0.3V_{DD}$			$0.3V_{DD}$	V	At OE pin
Input HIGH level	$0.7V_{DD}$			$0.7V_{DD}$			V	At OE pin
Output LOW level			V_{DD} -1.6			V_{DD} -1.6	V	
Output HIGH level	V_{DD} -1.0			V_{DD} -1.0			V	
Rise Time (T_R)			300			300	ps	Maximum; 20/80% of V_A; Output load (CL) = 2pF
Fall Time (T_F)			300			300	ps	Maximum; 20/80% of V_A; Output load (CL) = 2pF
Amplitude (V_A)		0.75			0.75		V	Single Ended output swing (Pk-Pk)
Mid Level (V_M)		V_{DD} -1.3			V_{DD} -1.3		V	
Symmetry (SYM)	45		55	45		55	%	Worst case; measured at 50% of waveform
Period Jitter			3			3	ps	Measured over 10k cycles, rms
Phase Jitter			1.0			1.0	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

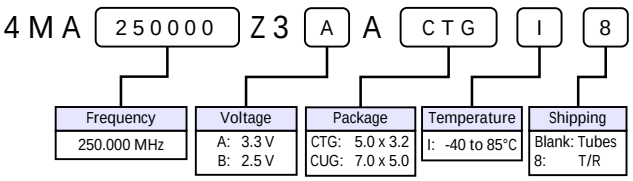


Output Waveform

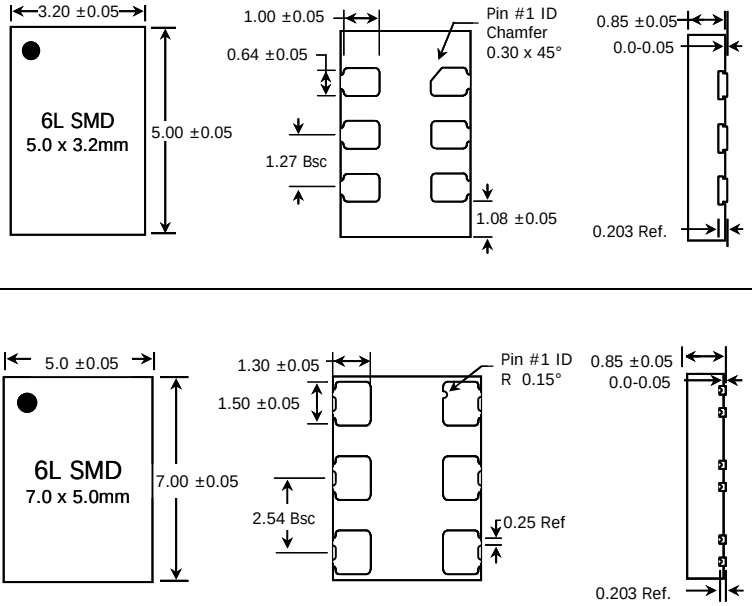


Part Ordering Information

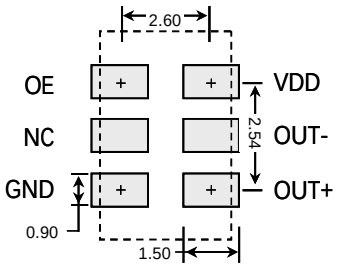
Package Size	Voltage	Ordering Code
5.0 x 3.2 mm	3.3 V	4MA250000Z3AACTGI
	2.5 V	4MA250000Z3BACTGI
7.0 x 5.0 mm	3.3 V	4MA250000Z3AACUGI
	2.5 V	4MA250000Z3BACUGI

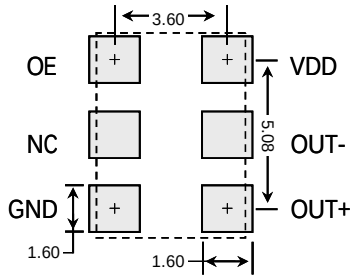


Package Outline and Dimensions



Typical PCB Land Pattern





Pin	Name	Description
1	OE	Output Enable*
2	NC	No Connect
3	GND	Ground
4	OUT+	Output
5	OUT-	Output
6	VDD	Power

* internally pulled high

Unit: (mm)

www.IDT.com

6024 Silver Creek Valley Road
San Jose, California 95138

Sales
+1 408-284-8200
Fax: 408-360-1738

Technical Support
MEMS_Support@idt.com
www.idt.com/go/MEMS