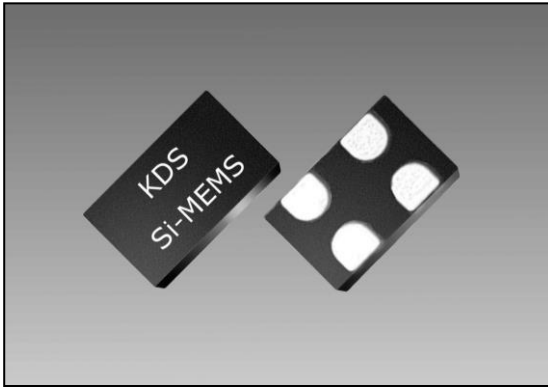


MO8225



■ Features

- 25, 25.001200 MHz and 25.000625 MHz for Ethernet applications
- Standard 4-pin packages: 2.7 x 2.4 (compatible with 2.5 x 2.0 footprint), 3.2 x 2.5, 5.0 x 3.2, 7.0 x 5.0 mm
- Frequency stability as low as $\pm 10 \times 10^{-6}$
- Ultra Low phase Jitter: 0.3 ps
- Outstanding silicon reliability of 2 FIT or 500 million hour MTBF

■ Applications

- Computing, storage, networking, telecom, industrial control
- SATA, SAS, Ethernet, 10Gb Ethernet, XAUI



■ Standard Specification

Item	Symbol	Min.	Typ.	Max.	Unit	Condition
Output Frequency Range	f	25.000000 / 25.001200 / 25.000625			MHz	
Supply Voltage	Vdd	+1.71	+1.8	+1.89	V	Supply voltages between +2.5V and +3.3V can be supported.
		+2.25	+2.5	+2.75		
		+2.52	+2.8	+3.08		
		+2.97	+3.3	+3.63		
Operating Temperature Range	T _{use}	-20	-	+70	°C	Extended Commercial Industrial
		-40	-	+85		
Frequency Stability	F _{stab}	-10	-	+10	x10 ⁻⁶	Inclusive of Initial tolerance at +25°C, and variations over operating temperature, rated power supply voltage and load
		-20	-	+20		
		-25	-	+25		
		-50	-	+50		
First year Aging	F _{aging1}	-1.5	-	+1.5	x10 ⁻⁶	T _A = +25°C
10-year Aging	F _{aging10}	-5.0	-	+5.0	x10 ⁻⁶	T _A = +25°C
Current Consumption	I _{dd}	-	+31	+33	mA	No load condition, Vdd = +2.5V, +2.8V or +3.3V
		-	+29	+31		No load condition, Vdd = +1.8V
OE Disable Current	I _{od}	-	-	+31	mA	Vdd = +2.5V, +2.8V or +3.3V, OE = GND, output is Weakly Pulled Down
		-	-	+30		Vdd = +1.8 V. OE = GND, output is Weakly Pulled Down
Standby Current	I _{std}	-	-	+70	µA	Vdd = +2.5V, +2.8V or +3.3V, \overline{ST} = GND, output is Weakly Pulled Down
		-	-	+10		Vdd = +1.8 V. \overline{ST} = GND, output is Weakly Pulled Down
Duty Cycle	DC	45	-	55	%	
Output Voltage Low	V _{OL}	-	-	Vdd x 0.1	V	I _{OH} = -6.0 mA, I _{OL} = +6.0 mA, (Vdd = +3.3V, +2.8V, +2.5V)
Output Voltage High	V _{OH}	Vdd x 0.9	-	-	V	I _{OH} = -3.0 mA, I _{OL} = +3.0 mA, (Vdd = +1.8V)
Rise/Fall Time	Tr, Tf	-	1.2	2.0	ns	15 pF load, 10% - 90% Vdd
		-	2.2	-		30 pF load, 10% - 90% Vdd
		-	3.4	-		45 pF load, 10% - 90% Vdd
Input Voltage Low	V _{IL}	-	-	Vdd x 0.3	V	Pin 1, OE or \overline{ST}
Input Voltage High	V _{IH}	Vdd x 0.7	-	-	V	Pin 1, OE or \overline{ST}
Startup Time	T _{start}	-	7.0	10	ms	Measured from the time Vdd reaches its rated minimum value
Enable/Disable Time	T _{oe}	-	-	150	ns	
Resume Time	T _{resume}	-	6.0	10	ms	In standby mode, measured from the time \overline{ST} pin crosses 50% threshold.
RMS Period Jitter	T _{jitt}	-	1.5	2.0	ps	Vdd = +2.5V, +2.8V or +3.3V
		-	2.0	3.0		Vdd = +1.8V
RMS Phase Jitter (random)	T _{phj}	-	0.25	0.3	ps	IEEE802.3-2005 10GbE jitter measurement specifications

Consult our sales representative for other specifications.

MO8225

■ Dimensions and Patterns

Package Size – Dimensions (Unit: mm) ^[1]	Recommended Land Pattern (Unit: mm) ^[2]										
<p>2.7 x 2.4 x 0.75 mm (100% compatible with 2.5 x 2.0 mm footprint)</p> <p>2.7 ± 0.05</p> <p>2.4 ± 0.05</p> <p>0.75 ± 0.05</p> <p>1.00</p> <p>1.25</p> <p>0.85</p> <p>0.5</p> <p>YXXXX</p> <p>#4 #3</p> <p>#1 #2</p> <p>Pin Connections</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>OE/ST</td> </tr> <tr> <td>#2</td> <td>GND</td> </tr> <tr> <td>#3</td> <td>Output</td> </tr> <tr> <td>#4</td> <td>Vdd</td> </tr> </tbody> </table>	Pin No.	Connection	#1	OE/ST	#2	GND	#3	Output	#4	Vdd	<p>1.9</p> <p>1.5</p> <p>1.0</p> <p>1.1</p>
Pin No.	Connection										
#1	OE/ST										
#2	GND										
#3	Output										
#4	Vdd										
<p>3.2 x 2.5 x 0.75 mm</p> <p>3.2 ± 0.05</p> <p>2.5 ± 0.05</p> <p>0.75 ± 0.05</p> <p>2.1</p> <p>0.9</p> <p>0.7</p> <p>0.9</p> <p>YXXXX</p> <p>#4 #3</p> <p>#1 #2</p> <p>Pin Connections</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>OE/ST</td> </tr> <tr> <td>#2</td> <td>GND</td> </tr> <tr> <td>#3</td> <td>Output</td> </tr> <tr> <td>#4</td> <td>Vdd</td> </tr> </tbody> </table>	Pin No.	Connection	#1	OE/ST	#2	GND	#3	Output	#4	Vdd	<p>2.2</p> <p>1.9</p> <p>1.2</p> <p>1.4</p>
Pin No.	Connection										
#1	OE/ST										
#2	GND										
#3	Output										
#4	Vdd										
<p>5.0 x 3.2 x 0.75 mm</p> <p>5.0 ± 0.05</p> <p>3.2 ± 0.05</p> <p>0.75 ± 0.05</p> <p>2.39</p> <p>0.8</p> <p>1.1</p> <p>1.15</p> <p>YXXXX</p> <p>#4 #3</p> <p>#1 #2</p> <p>Pin Connections</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>OE/ST</td> </tr> <tr> <td>#2</td> <td>GND</td> </tr> <tr> <td>#3</td> <td>Output</td> </tr> <tr> <td>#4</td> <td>Vdd</td> </tr> </tbody> </table>	Pin No.	Connection	#1	OE/ST	#2	GND	#3	Output	#4	Vdd	<p>2.54</p> <p>2.2</p> <p>1.6</p> <p>1.5</p>
Pin No.	Connection										
#1	OE/ST										
#2	GND										
#3	Output										
#4	Vdd										
<p>7.0 x 5.0 x 0.90 mm</p> <p>7.0 ± 0.05</p> <p>5.0 ± 0.05</p> <p>0.90 ± 0.10</p> <p>5.08</p> <p>2.6</p> <p>1.1</p> <p>1.4</p> <p>YXXXX</p> <p>#4 #3</p> <p>#1 #2</p> <p>Pin Connections</p> <table border="1"> <thead> <tr> <th>Pin No.</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>OE/ST</td> </tr> <tr> <td>#2</td> <td>GND</td> </tr> <tr> <td>#3</td> <td>Output</td> </tr> <tr> <td>#4</td> <td>Vdd</td> </tr> </tbody> </table>	Pin No.	Connection	#1	OE/ST	#2	GND	#3	Output	#4	Vdd	<p>5.08</p> <p>3.81</p> <p>2.0</p> <p>2.2</p>
Pin No.	Connection										
#1	OE/ST										
#2	GND										
#3	Output										
#4	Vdd										

Notes:

1. Top marking: Y denotes manufacturing origin and XXXX denotes manufacturing lot number. The value of "Y" will depend on the assembly location of the device.
2. A capacitor of value 0.1 μF between Vdd and GND is recommended.