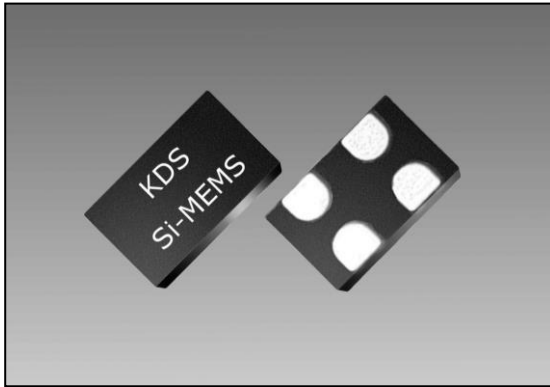


## MO8256



### ■ Features

- 156.250000 MHz, 156.253906 MHz, 156.257800 MHz  
156.257812 MHz, 156.261718 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	156.250000 / 156.253906 / 156.257800 / 156.257812 156.261718			MHz	
Supply Voltage	V <sub>dd</sub>	+1.71 +2.25 +2.52 +2.97	+1.8 +2.5 +2.8 +3.3	+1.89 +2.75 +3.08 +3.63	V	Supply voltages between +2.5V and +3.3V can be supported.
Operating Temperature Range	T <sub>use</sub>	-20	-	+70	°C	Extended Commercial
		-40	-	+85	°C	Industrial
Frequency Stability	F <sub>stab</sub>	-10	-	+10	x10 <sup>-6</sup>	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 <sub>aging1</sub>	-1.5	-	+1.5	x10 <sup>-6</sup>	T <sub>A</sub> = +25°C
10-year Aging	F <sub>aging10</sub>	-5.0	-	+5.0	x10 <sup>-6</sup>	T <sub>A</sub> = +25°C
Current Consumption	I <sub>dd</sub>	-	+31	+33	mA	No load condition, V <sub>dd</sub> = +2.5V, +2.8V or +3.3V
		-	+29	+31		No load condition, V <sub>dd</sub> = +1.8V
OE Disable Current	I <sub>od</sub>	-	-	+31	mA	V <sub>dd</sub> = +2.5V, +2.8V or +3.3V, OE = GND, output is Weakly Pulled Down
		-	-	+30		V <sub>dd</sub> = +1.8 V, OE = GND, output is Weakly Pulled Down
Standby Current	I <sub>std</sub>	-	-	+70	µA	V <sub>dd</sub> = +2.5V, +2.8V or +3.3V, $\overline{ST}$ = GND, output is Weakly Pulled Down
		-	-	+10		V <sub>dd</sub> = +1.8 V, $\overline{ST}$ = GND, output is Weakly Pulled Down
Duty Cycle	DC	45	-	55	%	
Output Voltage Low	V <sub>OL</sub>	-	-	V <sub>dd</sub> x 0.1	V	I <sub>OH</sub> = -6.0 mA, I <sub>OL</sub> = +6.0 mA, (V <sub>dd</sub> = +3.3V, +2.8V, +2.5V)
Output Voltage High	V <sub>OH</sub>	V <sub>dd</sub> x 0.9	-	-	V	I <sub>OH</sub> = -3.0 mA, I <sub>OL</sub> = +3.0 mA, (V <sub>dd</sub> = +1.8V)
Rise/Fall Time	T <sub>r</sub> , T <sub>f</sub>	-	1.2	2.0	ns	15 pF load, 10% - 90% V <sub>dd</sub>
		-	2.2	-		30 pF load, 10% - 90% V <sub>dd</sub>
		-	3.4	-		45 pF load, 10% - 90% V <sub>dd</sub>
Input Voltage Low	V <sub>IL</sub>	-	-	V <sub>dd</sub> x 0.3	V	Pin 1, OE or $\overline{ST}$
Input Voltage High	V <sub>IH</sub>	V <sub>dd</sub> x 0.7	-	-	V	Pin 1, OE or $\overline{ST}$
Startup Time	T <sub>start</sub>	-	7.0	10	ms	Measured from the time V <sub>dd</sub> reaches its rated minimum value
Enable/Disable Time	T <sub>oe</sub>	-	-	150	ns	
Resume Time	T <sub>resume</sub>	-	6.0	10	ms	In standby mode, measured from the time $\overline{ST}$ pin crosses 50% threshold.
RMS Period Jitter	T <sub>jitt</sub>	-	1.5	2.0	ps	V <sub>dd</sub> = +2.5V, +2.8V or +3.3V
		-	2.0	3.0		V <sub>dd</sub> = +1.8V
RMS Phase Jitter (random)	T <sub>phj</sub>	-	0.25	0.3	ps	IEEE802.3-2005 10GbE jitter measurement specifications

Consult our sales representative for other specifications.

## MO8256

### ■ Dimensions and Patterns

Package Size – Dimensions (Unit: mm) <sup>[1]</sup>	Recommended Land Pattern (Unit: mm) <sup>[2]</sup>										
<p><b>2.7 x 2.4 x 0.75 mm (100% compatible with 2.5 x 2.0 mm footprint)</b></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	
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#### 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  $\mu$ F between Vdd and GND is recommended.