3.3V CMOS Low-Jitter 25 MHz GbE XO

FNETHE025

7.0 x 5.0mm Ceramic SMD

ASSP XO™ for Networking

Product Features

- Very low Pk to Pk jitter - 50ps Max
- Low output current - 15mA Max
- Low power standby mode
- RoHS Compliant

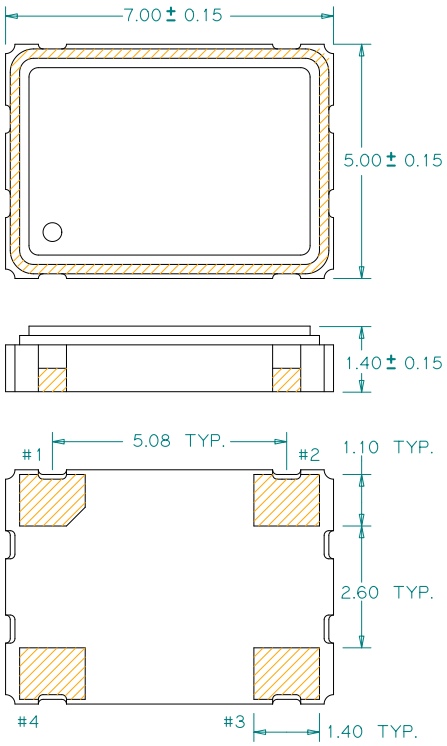
Product Description

This is an enhanced 3.3V, 25MHz crystal clock oscillator with superb jitter and low operating current for providing clock references in Gigabit Ethernet applications.

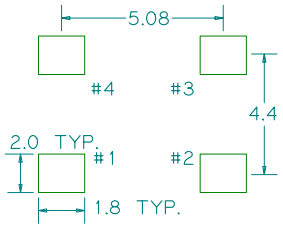
Applications

- Gigabit Ethernet Switch

Package:



Recommended Land Pattern:



Pin Functions:

Pin	Function
1	OE Function
2	Ground
3	Clock Output
4	V_{DD}

*Extended high frequency power decoupling is recommended (see test circuit for minimum recommendation). To ensure optimal performance, do not route RF traces beneath the package.

Part Ordering Information:

FNETHE025

Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency		25		MHz	
Supply Voltage V_{DD}	2.97	3.3	3.63	V	
Supply Current, Output Enabled			15	mA	
Supply Current, Output Disabled			10	µA	
Frequency Stability			±25	ppm	See Note 1 below
Operating Temperature Range	-20		+70	°C	
Output Logic 0, V_{OL}			10% V_{DD}	V	
Output Logic 1, V_{OH}	90% V_{DD}			V	
Output Load			15	pF	
Duty Cycle	45		55	%	Measured 50% V_{DD}
Rise and Fall Time			7	ns	Measured 20/80% of waveform
Jitter, pk-pk			50	ps	100.000 random periods

Notes:
1. Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (1 year at 25°C average effective ambient temperature), shock and vibration.
2. For specifications othere than those listed, please contact sales.

Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin 1), Output Enable	0.7 V_{DD}			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.3 V_{DD}	V	Output is Hi-Z
Internal Pullup Resistance	30			kΩ	
Output Disable Delay			50	ns	
Output Enable Delay			2	ms	

Absolute Maximum Ratings

Parameter	Min.	Typ.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	

For the latest product information visit: http://www.pericom.com/products/timing/oscillators/FNETHE025/

For test circuit go to: http://www.pericom.com/pdf/sre/tc_hcmos.pdf

For soldering reflow profile and reliability test ratings go to: http://www.pericom.com/pdf/sre/reflow.pdf

For tape and reel information go to: http://www.pericom.com/pdf/sre/tr_7050_xo.pdf