



Integrated Device Technology, Inc. (IDT)

1. FemtoClock® Crystal/LVCMOS-to-LVDS/LVCMOS Frequency Synthesizer

8440259-45

Obsolete

FemtoClock® Crystal/LVCMOS-to-LVDS/LVCMOS Frequency Synthesizer

NOTICE - The following device(s) are recommended alternatives:

[8440259D-45 - FemtoClock® Crystal/LVCMOS-to-LVDS/LVCMOS Frequency Synthesizer](#)

Pin-to-pin compatible

The 8440259-45 is a 9 output synthesizer optimized to generate Gigabit and 10 Gigabit Ethernet clocks and is a member of the family of high performance clock solutions from IDT. Using a 25MHz, 18pF parallel resonant crystal, the device will generate both 156.25MHz, 125MHz and 3.90625MHz clocks with mixed LVDS and LVCMOS/LVTTL output levels. The 8440259-45 uses IDT's 3rd generation low phase noise VCO technology and can achieve <1ps typical rms phase jitter, easily meeting Ethernet jitter requirements. The 8440259-45 is packaged in a small, 5mm x 5mm VFQFN package that is optimum for applications with space limitations.

Features

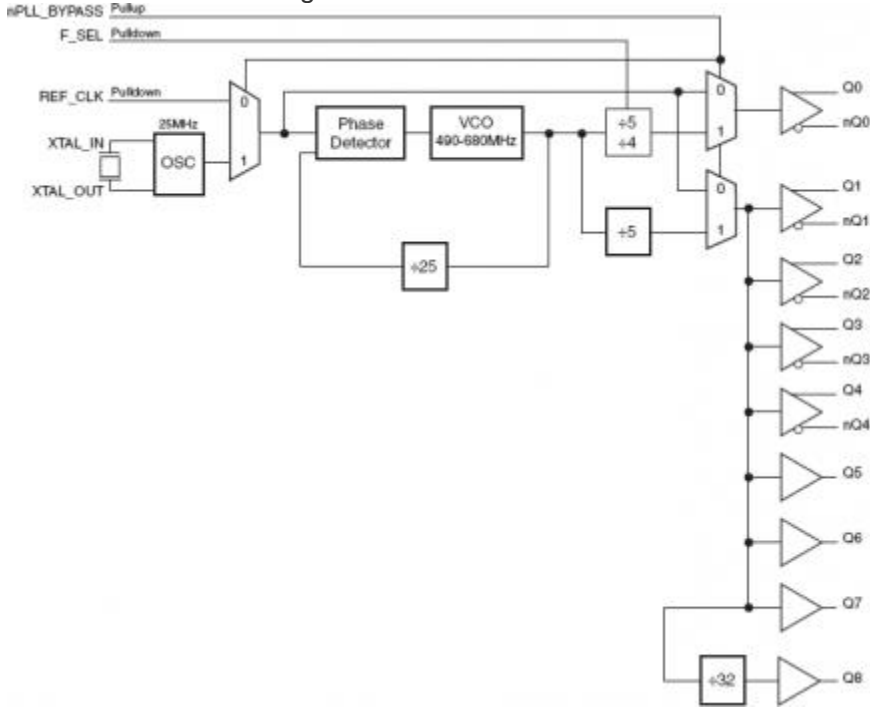
- One differential LVDS output at 156.25MHz or 125MHz Four differential LVDS outputs at 125MHz Three LVCMOS/LVTTL single-ended outputs at 125MHz One LVCMOS/LVTTL single-ended output at 3.90625MHz
- Selectable crystal oscillator interface or LVCMOS/LVTTL single-ended input and PLL bypass from a single select pin
- VCO range: 490MHz - 680MHz
- RMS phase jitter @ 125MHz, using a 25MHz crystal (1.875MHz - 20MHz): 0.41ps (typical), LVDS output
- RMS phase jitter @ 156.25MHz, using a 25MHz crystal (1.875MHz - 20MHz): 0.41ps (typical), LVDS output
- LVDS supply voltage modes: full 3.3V and full 2.5V
- LVCMOS supply voltage modes: Core/Output Core/Output Core/Output 3.3V/3.3V 3.3V/2.5V 2.5V/2.5V
- 0°C to 70°C ambient operating temperature
- Available in lead-free (RoHS6) package

Product Options

| Orderable Part ID | Part Status | Pkg. Code | Pkg. Type | Lead Count (#) | Temp. Grade | Pb (Lead) Free | Carrier Type | Buy Sample |
|-------------------|-------------|-------------------------|-----------|----------------|-------------|----------------|--------------|------------------------------|
| 8440259AK-45LF | Obsolete | NLG32P1 | VFQFPN | 32 | C | Yes | Tray | Availability |
| 8440259AK-45LFT | Obsolete | NLG32P1 | VFQFPN | 32 | C | Yes | Reel | Availability |

Images

8440259-45 - Block Diagram



8440259-45 - Pinout

