IDT
Integrated Device Technology

Up to 12 Programmable Clock Outputs with 10 Unique Frequencies

FEATURES

- Provides a total of 12 differential or 24 LVCMOS outputs
  - 8 FracN output dividers provide up to 8 completely independent output frequencies
  - 2 IntN output dividers provide an additional 4 outputs
- Low phase jitter: < 500 fs RMS Phase Jitter, 12 kHz to 20 MHz
- Output frequencies from 8 kHz up to 1 GHz differential, 250 MHz LVCMOS
- Flexible input options:
  - 10 to 40 MHz fundamental mode crystal
  - Reference input from 10 to 600 MHz
- Flexibility
  - One Time Programmable (OTP) non-volatile memory
  - Register programmable through I^2C, or via external I^2C EEPROM
- Feature rich
  - Loss of Lock (LOL) monitor
  - Loss of Signal (LOS) alarm
  - FracN output dividers for increased signal accuracy
  - DCO mode

The 8T49N1012 FemtoClock® NG frequency synthesizer is a very flexible and configurable single FracN PLL device which offers up to 12 programmable clock outputs. It is equipped with two integer and eight fractional output dividers, allowing the generation of up to eight unique and ten different output frequencies, ranging from 8 kHz to 1 GHz. The device is offered in a 72-QFN package and is capable of satisfying virtually an entire clock tree, which helps to optimize board space, while delivering solid performance.

The 8T49N1012 accepts a differential or single-ended input clock or a crystal input, with the PLL locking to either source. The device is feature rich, including monitors on the input clocks for Loss of Lock (LOL) and Loss of Signal (LOS).

Flexibility and ease of programmability allow these devices to be used in a variety of clock trees while reducing engineering effort. The device is programmable through an I^2C interface and also supports I^2C master capability to allow the register configuration to be read from an external EEPROM. IDT's Timing Commander™ software tool enables a fast and easy reconfiguration of the devices.

TARGET APPLICATIONS

- Configurable to meet many application needs, especially enterprise-class applications
- 10 GbE and 40 GbE interface timing
- Communications and networking end equipment
- General applications
  - Backplane
  - Audio
  - USB
  - Video

To request samples, download documentation, or learn more visit:
idt.com/8T49N1012

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