

Communications

XRT8020

650 MHz High-Speed Clock Synthesizer

Features:

- 3.3V Low Power CMOS: 80 mW typical
- No External Filters Required
- Small 16-lead QLP Package

Applications:

- SONET/SDH
- Gigabit Ethernet
- SPI – 4 Phase 2 Bus Interfaces
- Voltage Controlled Crystal Oscillator (VCXO)

The XRT8020 is a High-Speed Clock Synthesizer that provides a high frequency Low Voltage Differential Swing (LVDS) clock output, using a low frequency crystal or reference clock. The device produces clock signals up to 650 MHz by multiplying the output of a standard crystal (ranging from 20 to 40 MHz), and can generate from a clock signal input up to 80MHz. The device utilizes an analog phase locked loop that provides the clock multiplication function (8x, 16x or 32x), and when combined with the crystal frequency augments the output frequency. Also, the output can be divided by a factor of two allowing the XRT8020 to cover a wider frequency range.

Jitter

Jitter is an important consideration with any clock. Different systems will have different requirements for jitter. The XRT8020 is capable of attaining 10 pS of jitter at 624 MHz. Jitter levels this low allow the device to be designed into many high-speed clock circuits where tolerance for high jitter levels eliminates other solutions.

Power

The IC operates from 3.3V and comes in a low inductance package that is available over the industrial temperature range. Also, the part has auto VCO (Voltage Controlled Crystal Oscillator) calibration logic on power-up that provides stability over wide frequency ranges.

Reduced Package Size

At 16-pin QLP, the XRT8020 is one of the smallest clock synthesizers in the market. This capability makes it ideal for both OEMs, and hybrid manufacturers that combine timing components onto a single PC-board module offering pre-tested off-the-shelf timing solutions.