Microcontrollers in Optical Networking

Optical networking is the control of fiber optic communication infrastructure. Silicon is present in every situation where the optical network delivers data to the processing stations, such as data centers, buildings serviced by fiber optic networks, cell phone towers, and more.

This includes everything from high bandwidth cables between countries and cities and data centers (SONET/CWDM) all the way down to Ethernet switches (EPON/Fiber channel) and fiber service to the home (FTTH/GPON). New areas also include wireless infrastructure where fiber transmission from antenna to base station has replaced copper in cell phone towers.

Low-cost microcontrollers are needed in Optical Switch Module applications that are in nearly every type of optical network. They are typically in Small Form-factor Plugable (SFP, SFP+) modules where they control the transimpedance amplifiers, laser drivers, and record the digital diagnostic information.

Why partner with TI in optical networking?

- Unified FRAM simplifies software architecture for faster time to market by covering all memory needs in one space!
- Free I²C boot-strap loader in ROM for fast and easy programming
- Industry's broadest portfolio of die-sized packaging reduces size of the system
- 400+ code-compatible devices with 1000+ code examples, libraries, Grace™ software and ULP Advisor make MSP430™ MCUs the easiest to program

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Microcontrollers for optical networking

Applications kit:
MSP-EXP430FR5739 – $29
www.ti.com/fram

Code Composer Studio™ Integrated Development Environment is TI's software development environment that supports the MSP MCU platform as well as other TI embedded processors. It's free when being used with TI devices.

**Download software:**
www.ti.com/ccs

Getting started

Solution highlights

- Optical networking: EPON
  www.ti.com/solution/optical_networking_epon
- Optical networking: video over fiber:
  www.ti.com/solution/optical_networking_video_over_fiber
- Optical line card: www.ti.com/solution/optical_line_card
- DLP optical networking:
  www.ti.com/solution/dlp_optical_networking

Use on-demand support

- e2e.ti.com/mcu
- Speed layout guidelines: www.ti.com/lit/scaa082
- Applicable TI web pages: www.ti.com/optical

TEXAS INSTRUMENTS
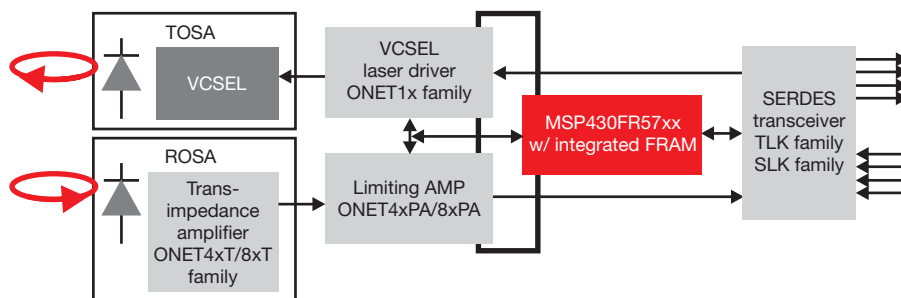
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