

PI2EQX6811

1.5V, 1-port, SATA Gen 3i SAS2 ReDriver™ with I²C Control

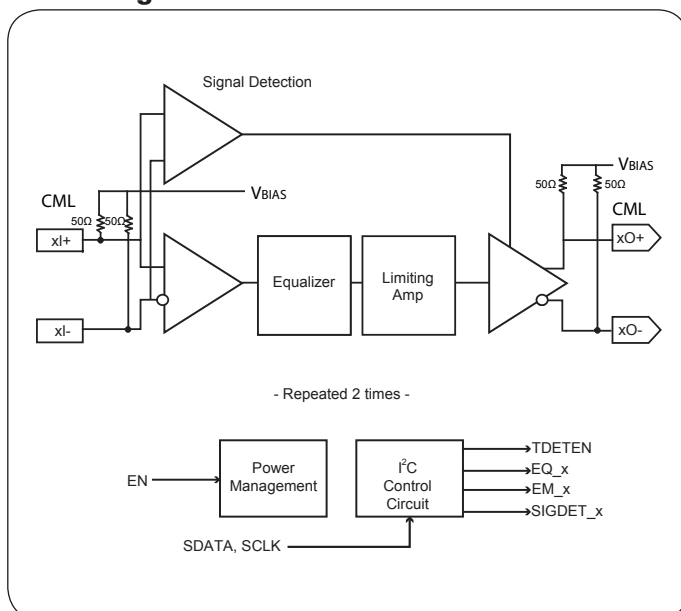
Pericom's PI2EQX6811 is a low power, signal SATA Gen 3i, SAS2 6Gbps ReDriver™. The device provides pin strap or I²C programmable equalization and output emphasis, to optimize performance over a variety of physical mediums by reducing Inter-Symbol Interference. PI2EQX6811 supports two 100Ω Differential CML data I/O's between the Protocol ASIC to a switch fabric, across a backplane, or to extend the signals across other distant data pathways on the user's platform.

The integrated equalization circuitry provides flexibility with signal integrity of the signal before the ReDriver.

A low-level input signal detection and output squelch function is provided for each channel. Each channel operates fully independently. When the channels are enabled (EN=1) and operating, that channels input signal level (on xl+/-) determines whether the output is active. If the input signal level of the channel falls below the active threshold level (Vth-) then the outputs are driven to the common mode voltage.

Termination Detect when enabled provides indication when the load is connected ie HDD or Host. This can be used as control to go into power saving mode by the device. In addition to signal conditioning, when EN = 0, the device enters a low power standby mode.

Block Diagram



Features

- Supports SATA Gen 3i, SAS2.
- Two 6Gbps differential signal pairs
- 100Ω Differential CML I/O's
- Input signal level detect and squelch for each channel
- OOB Support
- Automatic HDD Rate detection for output swing/emphasis setting
- Termination detect indication through I²C
- Power saving mode
- I²C Control
- Adjustable Receiver Equalization (0 to 18dB)
- Adjustable Output Pre-emphasis (0-6dB) and Swing (1200mV) Control
- High impedance I/O termination in standby mode
- Low Power Operation: 102mW@ 600mV output
- Auto-Slumber Mode: 22.5mW typical
- HDD unplugged: 1.5mW
- Power down Stand-by Mode: 15μW
- Supply Voltage: 1.5V ± 5%
- Industrial temperature range: -40°C to 85°C
- Packaging: 20-TQFN (4x4mm)

Applications

- Data Center Server, Blade server, Storage System
- Desktop PC, Notebook

SATA3.0/SAS2.0 6Gbps 1-Port ReDriver in Storage Array Application

