

A product Line of Diodes Incorporated

PRODUCT BRIEF

PI3EQX6801

6.5Gbps, 1-port, 1.5V/3.3V SATA/SAS ReDriver with Analog/Digital Configuration

Description

Diodes Incorporated PI3EQX6801 is a low power, 1.5V/3.3V, 6.5Gbps, SATA/SAS signal ReDriver[™]. The device provides programmable equalization, to optimize performance over a variety of physical mediums by reducing Inter-Symbol Interference.

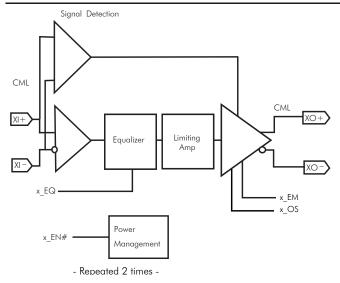
PI3EQX6801 supports two 100Ω Differential CML data I/O's between the Protocol ASIC to a switch fabric, across a backplane, or to extend the signals across other distant data pathways on the user's platform.

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 ($x_EN#=0$) and operating, that channels input signal level (on xI+/-) 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.

Each lane can be powered-down if $x_EN\# =1$, and when A_EN# and B_EN# are both high, the device enters a low power standby mode.

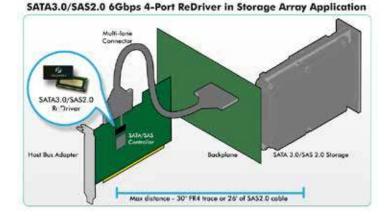
Application Diagram



Features

- → Two 6.5Gbps differential channels
- → Output swing up to 1.2V pk-to-pk
- → SAS, SATA fully supported
- → Adjustable Receiver Equalization 0 to 16 dB
- → 100Ω Differential CML I/O's
- → Continuous step output swing adjustment
- → Continuous step output pre-emphasis control
- → Input signal level detect and squelch for each channel
- → OOB fully supported
- → Auto HDD Rate Detection for out swing/emphasis setting
- → Supply Voltage: 1.5V or 3.3V
- → Low Power, 162mW @ 1.5V (600 mV Swing)
- → Stand-by Mode Power Down State: Current < 56 µA</p>
- → HDD unplug power: 1.5mW
- → Auto Slumber Mode power: 22.5mW typical
- → Industrial Temperature Range -40 to 85°C
- → Packaging: 20-contact TQFN (4x4mm)

Application



diodes.com | 1-408-232-9100