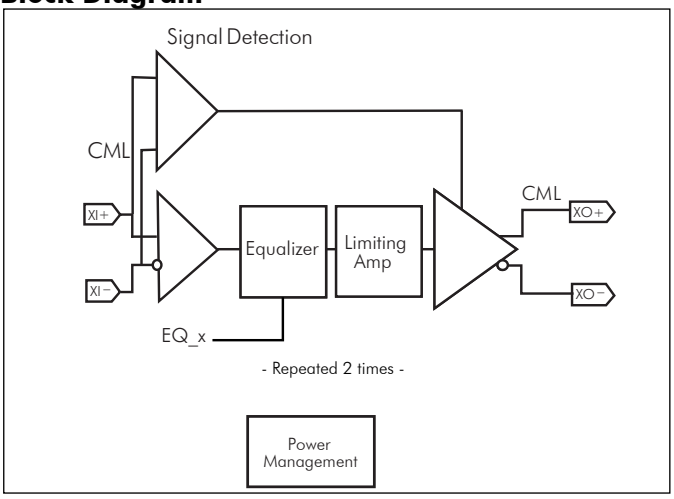
PI3EQX7502B

5.0Gbps, 1-port, USB3.0 ReDriver™

Pericom Semiconductor's PI3EQX7502B is a low power, high performance 5.0 Gbps signal ReDriver™ designed specifically for the USB 3.0 protocol. The device provides programmable equalization, De-Emphasis, and input threshold controls to optimize performance over a variety of physical mediums by reducing Inter-Symbol Interference. PI3EQX7502B supports two 100Ω Differential CML data I/O's between the Protocol ASIC to a switch fabric, over cable, 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_x# = 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. In addition to signal conditioning, when EN_x# = 1, the device enters a low power standby mode. The PI3EQX7502B also includes a fully programmable receiver detect function. When the RXD-EN pin is pulled high, automatic receiver detection will be active. The receiver detection loop will be active again if the corresponding channel's signal detector is idle for longer than 7.3mS. The channel will then move to Unplug Mode if load not detected, or it will return to Low Power Mode (Slumber Mode) due to inactivity.

Block Diagram



Features

- USB 3.0 compatible
- Full Compliancy to USB3.0 Super Speed Standard
- Two 5.0Gbps differential signal pairs
- Adjustable Receiver Equalization
- 100Ω Differential CML I/O's
- Pin Configured Output Emphasis Control
- Input signal level detect and squelch for each channel
- Automatic Receiver Detect with digital enable/disable
- Low Power : ~330mW
- Auto "Slumber" mode for adaptive power management
- Stand-by Mode – Power Down State
- Industrial Temp Support (-40°C to 85°C)
- Single Supply Voltage: 3.3V
- Packaging: 24-Pin TQFN (4x4mm)

Figure1

