

PI3DBS12412A

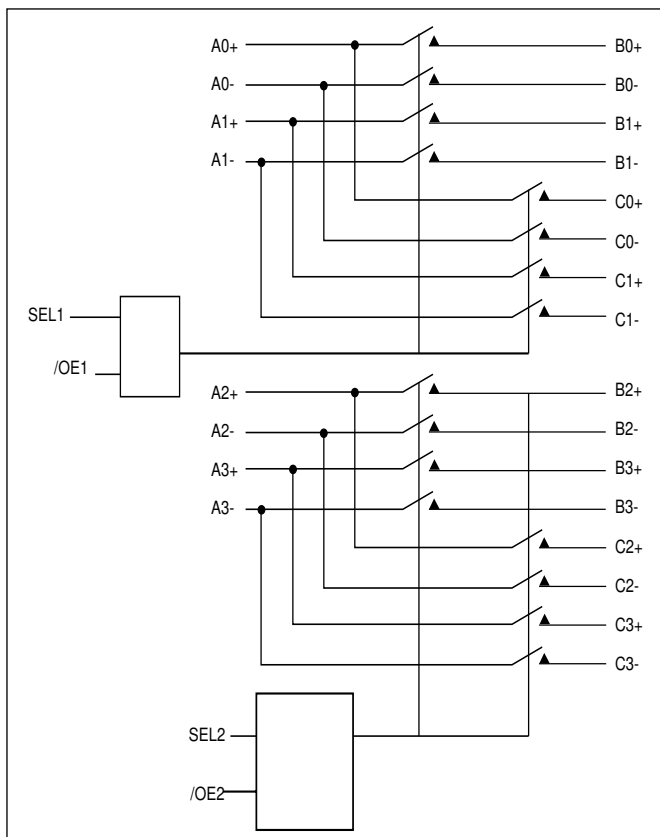
3.3V, 10-12Gbps 2-Lane 2:1 Mux/De-Mux Switch

Pericom Semiconductor's PI3DBS12412A is an 8 to 4 differential channel multiplexer/demultiplexer switch. This solution can switch multiple signal types up to data rate of 12Gbps. Using a unique design technique, Pericom has been able to minimize the impedance of the switch such that the attenuation observed through the switch is minimal. The unique design technique also offers a layout targeted for Thunderbolt & SAS 3.0 signals, which minimizes the channel to channel skew as well as channel to channel crosstalk as required by high speed signals.

Application

Routing high speed differential signals such as Thunderbolt, 10 Gigabit Ethernet, PCI-Express 3.0, SAS 3.0, and USB 3.1.

Block Diagram



Features

- 4 Differential Channel, 2:1 Mux/DeMux
- Up to 12Gbps data rate for SAS 3.0 Application
- Compatible with Thunderbolt signaling, 10.3125Gbps
- 10Gbps Ethernet, USB 3.1
- Bi-directional operation
- 3dB Bandwidth: 11.3 GHz
- Low Bit-to-Bit Skew, 1ps typ
- Low channel-to-channel skew, 7ps typ
- Low insertion loss:
 - 1.4dB@5 GHz, -1.5dB@6 GHz
- Return loss:
 - 19.3dB@5 GHz, -17.3dB@6 GHz
- Low Crosstalk: -30.5dB@6 GHz
- Low Off Isolation: -17.1dB@6 GHz
- Low power consumption -400 μ A typ
- Supply Voltage 3.3V
- Industrial Temperature Range: -40 $^{\circ}$ C to 85 $^{\circ}$ C
- ESD – 2KV Human Body Model (HBM)
- Packaging (Pb-free & Green):
 - 42-contact, TQFN (ZH42), 3.5x9mm
 - 40-contact, TQFN (ZL40), 3x6mm