

## **SWITCHING SOLUTIONS**

# **PI3DBS12412A**

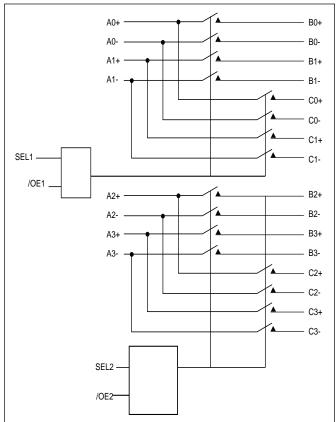
### 3.3V, 10-12Gbps 2-Lane 2:1 Mux/De-Mux Switch

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 $\mu$ A typ
- → Supply Voltage 3.3V
- → Industrial Temperature Range: -40°<sup>C t</sup>o 85°<sup>C</sup>
- → ESD 2KV Human Body Model (HBM)
- → Packaging (Pb-free & Green):
  - 42-contact, TQFN (ZH42), 3.5x9mm
  - 40-contact, TQFN (ZL40), 3x6mm