

M20001

DEVICE OVERVIEW

High Bandwidth Dual 2:1 Mux/DeMux Passive Switch

The M20001 device is a high bandwidth, differential passive switch that supports a variety of high speed applications including PCIe Gen 3, USB3.0, Displayport, SAS/SATA 6G, 3G SDI as well as analog signals used in audio and video distribution. The device preserves signal integrity by providing over 6 GHz of bandwidth through the device. Inputs are equipped with two, single pole double throw switches that are actuated with a single control pin. The M20001 is offered in an industry standard, green and RoHS compliant, 3 mm x 3 mm QFN package. The device pinout is architected to enable optimized PCB routing while providing maximum crosstalk isolation. Crosstalk isolation is critical for successful data transmission at multi-gigabit speeds. Signal paths through the device have been carefully routed so as to minimize skew within differential pairs as well as from switch to switch.

The M20001 uses a 3.3 V supply. Device power is used to operate switches only. Because the signal path is passive, device power usage is less than 2 mW.

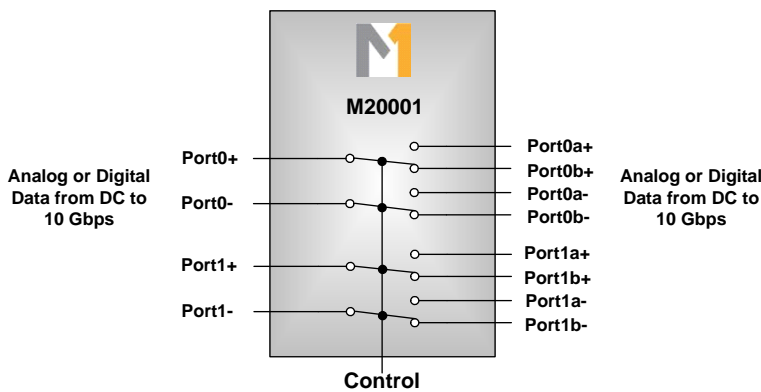


Figure 1 – M20001 Switching Control



M20001 – High Bandwidth Dual 2:1 Mux/DeMux Passive Switch

> Applications

- PCI Express Gen 3 - 8 Gbps
- SAS/SATA - 6 Gbps
- Displayport 1.2 – 5.4 Gbps
- USB 3.0 – 5 Gbps
- 3G SDI

Features	Benefits
Two differential, single pole double throw switches	Supports NRZ digital communication 2:1 switching
6 GHz bandwidth data paths	Preserves signal integrity
Supports all data rates up to 10 Gbps	One device supports multiple applications at various data rates
Optimal pin-out architecture for PCB routing	Superior crosstalk isolation
Device signal paths routed for best signal transmission	Minimizes skew within differential pairs and from switch to switch
Negligible power dissipation at less than 2 mW	Minimizes thermal management costs
Industrial operating temperature range:-40°C to +85°C	Provides additional margin for most applications
Single 3.3V supply operation	Works with the PC power supply on board without additional regulators (DC-to-DC converters)
3x3 mm ² , 16-pin QFN package	Provides space efficiency and reliability

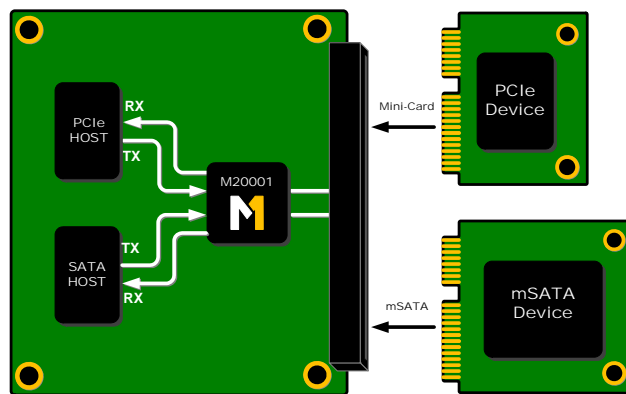


Figure 2 – Minicard/mSATA Application Diagram

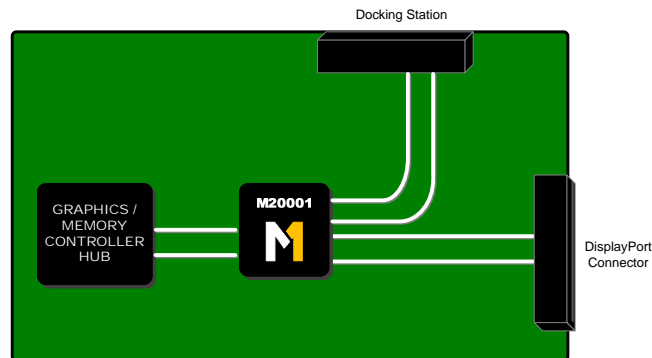


Figure 3 – Docking Station Application Diagram

Package (RoHS Compliant)

- M20001: 3x3 mm², 16-pin QFN



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