

M21482/3 8.5 Gbps Backplane Signal Conditioners

Product Overview

Mindspeed's family of 8.5 Gbps backplane signal conditioners feature small form factor, low power devices that enable data transmission over long backplanes at speeds up to 8.5 Gbps. Mindspeed's Amplif-Eye™ signal conditioning technology enables transmission of 8.5 Gbps data over significant distances while traversing two backplane connectors. These products are specifically designed to operate in environments that suffer from both loss and reflection. Each device channel features an independent equalizer and driver with programmable output swing and de-emphasis to maximize power efficiency. Virtually any digital protocol can be transmitted through the devices at speeds from 100 Mbps to 8.5 Gbps. The list of supported protocols includes: PCI Express, SATA, SAS, Infiniband, 2 x XAUI and 8 Gbps Fibre Channel. Mindspeed's backplane signal conditioners are designed to recognize and transparently relay out-of-band (OOB) signals for SATA/SAS and PCI Express. All devices include fully non-blocking switch matrices that allow for simple switching as well as multi-cast functionality. M21483 matrix can also be configured as a failover/redundancy switch. Both devices operate from -20° to +85°C. Devices can either be configured via a 2 wire interface or EPROM.

Features	Benefits
<ul style="list-style-type: none"> Fully non-blocking switch matrices 	Ultimate flexibility for switching and copying signals
<ul style="list-style-type: none"> SMPTE 424M, 344M, 292M, and 259M compatible, DVB-ASI 	Robust video compatibility
<ul style="list-style-type: none"> 23 dB equalization and 6 dB of de-emphasis available 	Maximizes transmission length
<ul style="list-style-type: none"> Low 115mW per channel power usage 	Minimizes cost to operate and cool
<ul style="list-style-type: none"> Small QFN packages 	Provides space efficiency and reliability
<ul style="list-style-type: none"> Out of Band (OOB) / Electrical Bus Idle (EBI) signaling support 	Allows for seamless integration into PCIe, SATA and SAS
<ul style="list-style-type: none"> Boundary scan 	High speed input and output pins
<ul style="list-style-type: none"> Protocol agnostic 	One device supports multiple applications
<ul style="list-style-type: none"> 1.2 Volt core / optional 1.2 or 1.8 Volt IO 	Flexibility to use right power performance
<ul style="list-style-type: none"> Extended temperature range (-20° to 85° C) 	Provides additional margin for most applications
<ul style="list-style-type: none"> Data rate independent 	Operates up to 8.5 Gbps, no reference clock required

	M21482	M21483
Switch Matrix	8x8	12x12
Power (mW)	920	1300
Package (mm)	10x10	12x12
EQ Control	Prog.	Prog.

Fig. 1 - Product Selection Chart

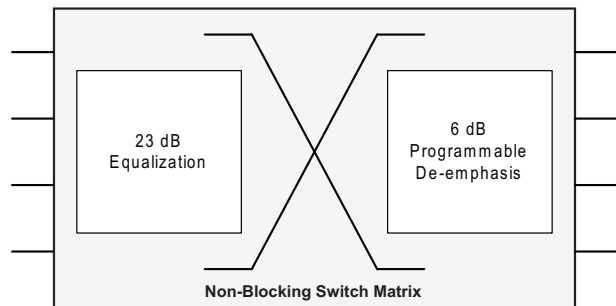


Fig. 2 - M21482/3 Non-Blocking Switch Diagram



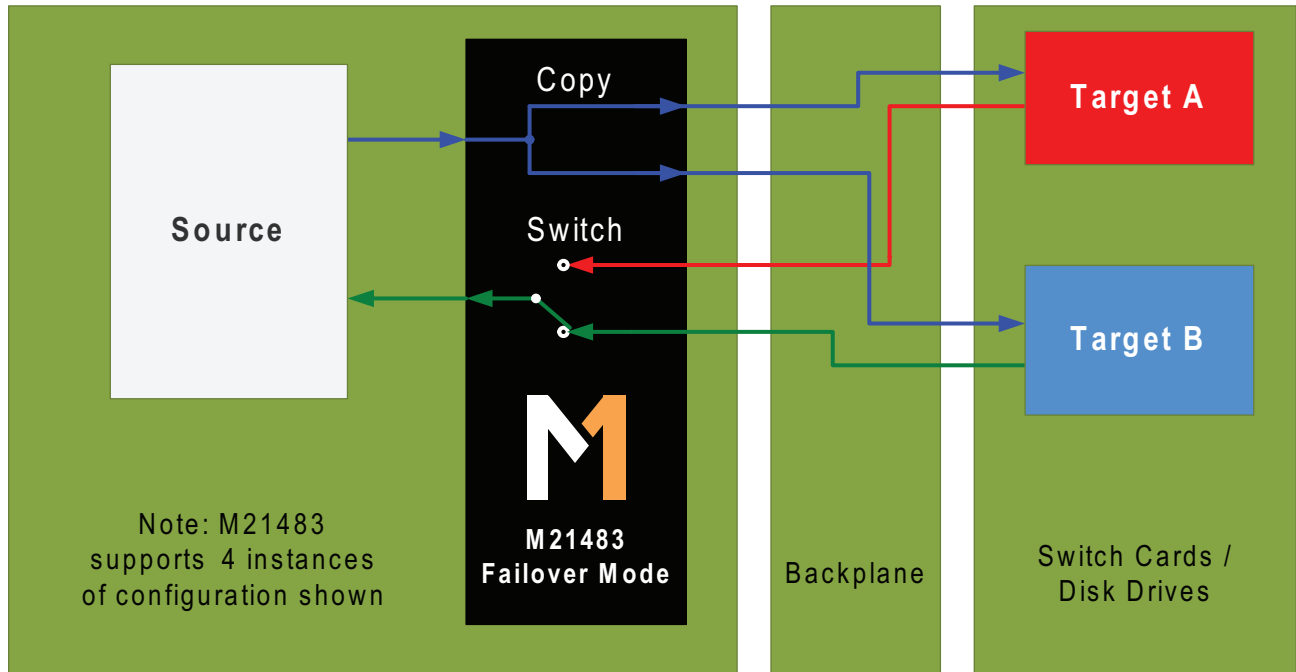


Fig. 3 - M21483 Application Diagram: Failover / Redundancy Switch

Product Features

Applications

- Backplane equalizer / driver
- SDI video and DVB-ASI equipment
- SATA / SAS redundancy switch
- Blade server board to board interconnect
- Infiniband reach extension
- PCI Express failover switch

Package

- M21482: 10x10 mm, 72 pin MLF
- M21483: 12x12 mm, 88 pin MLF

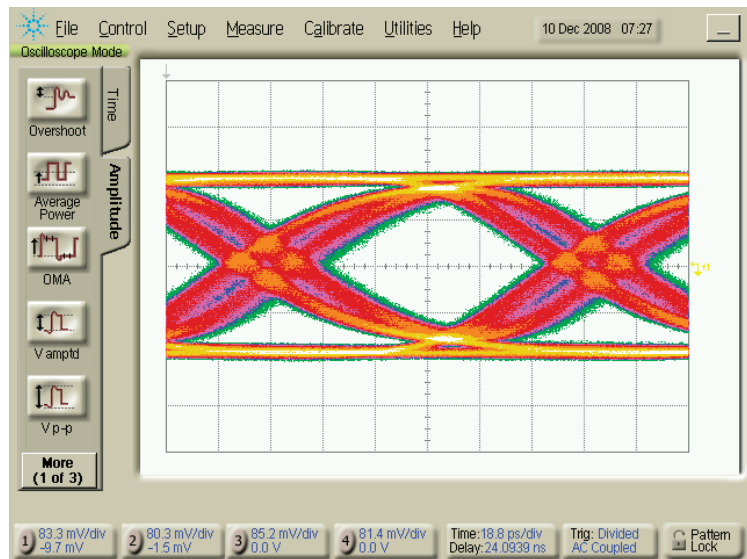


Fig. 4 - 8.5 Gbps Equalized After 20" Trace

For more product information, please visit www.mindspeed.com

www.mindspeed.com/salesoffices

General Information: (949) 579-3000

Headquarters - Newport Beach

4000 MacArthur Blvd., East Tower

Newport Beach, CA 92660-3007

M2148x-BRF-001-A.pdf

© 2009 Mindspeed Technologies, Inc. All rights reserved. Mindspeed and the Mindspeed logo are trademarks of Mindspeed Technologies. All other trademarks are the property of their respective owners. Although Mindspeed Technologies strives for accuracy in all its publications, this material may contain errors or omissions and is subject to change without notice. This material is provided as is and without any express or implied warranties, including merchantability, fitness for a particular purpose and non-infringement. Mindspeed Technologies shall not be liable for any special, indirect, incidental or consequential damages as a result of its use.

MINDSPEED
BUILD IT FIRST®