DS-MPE-SER4OPT 4-Port Opto-Isolated Serial PCIe MiniCard Module

DIAMOND SYSTEMS
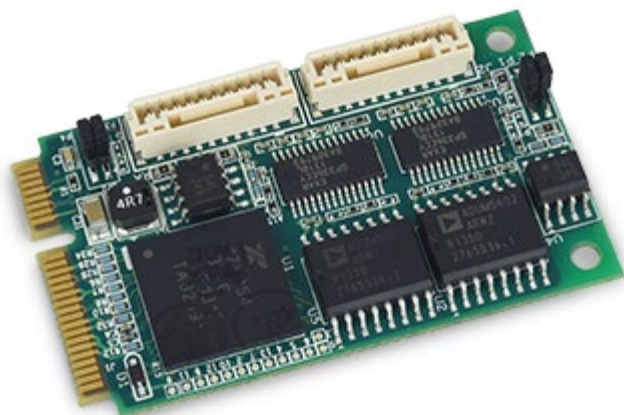
FEATURES

4 opto-isolated RS-232/485 serial ports

Maximum baud rate:
  1Mbps RS-232 mode
  10Mbps RS-485 mode

Available in 3 configurations:

* 4 RS-232 ports
* 4 RS-485 ports
* 2 RS-232 + 2 RS-485 ports

256-byte TX/RX FIFO

SP336 multi-mode transceivers support all modes

+/-500V input/output isolation

Latching connectors for increased ruggedness

+3.3VDC input power

Support for Windows 7, XP, Vista, 2000, and Linux 2.6

Operating temperature -40ºC to +85ºC

PCIe MiniCard full size form factor (50.95 x 30mm)

◆ Description

The DS-MPE-SER4OPT is a rugged, low cost 4-port opto-isolated PCIe MiniCard serial module that is ideal for serial I/O expansion in embedded and OEM applications where opto-isolation is needed for safety or for ground loop prevention.

The DS-MPE-SER4OPT offers 4 RS-232/RS-485 opto-isolated serial ports in a PCIe MiniCard form factor. Each port offers 16C550 compatibility and ultra-deep 256-byte TX/RX FIFOs. Maximum data rates are 1Mbps in RS-232 mode and 10Mbps in RS-485 mode. The board is available preconfigured for 4 RS-232 ports, 4 RS-485 ports, or a combination of 2 RS-232 and 2 RS-485 ports. I/O signals are provided on two miniature latching connectors, with 2 ports per connector.

Each pair of serial ports on the DS-MPE-SER4OPT offers up to 500V isolation from the system ground. Optoisolation increases reliability in applications with long cable runs, where a difference in ground potential can cause significant ground loop currents, damaging non-isolated boards and equipment. Isolation on this miniature board is achieved through a combination of highly integrated isolated power + data components, careful component placement and layout, and a safety-enhancing insulation film on the bottom side, which prevents accidental contact with components on the carrier board.

DS-MPE-OPT4x is designed for rugged environments with latching connectors and extended temperature capability (-40°C to +85°C). In addition, the board may be custom-configured with 0-ohm resistors in place of jumper blocks for increased ruggedness in high-vibration environments.

The DS-MPE-SER4OPT product comes with the 4-port PCIe MiniCard opto-isolated serial module, the CK-SER4M cable kit, and a hardware kit with jumpers and screws.
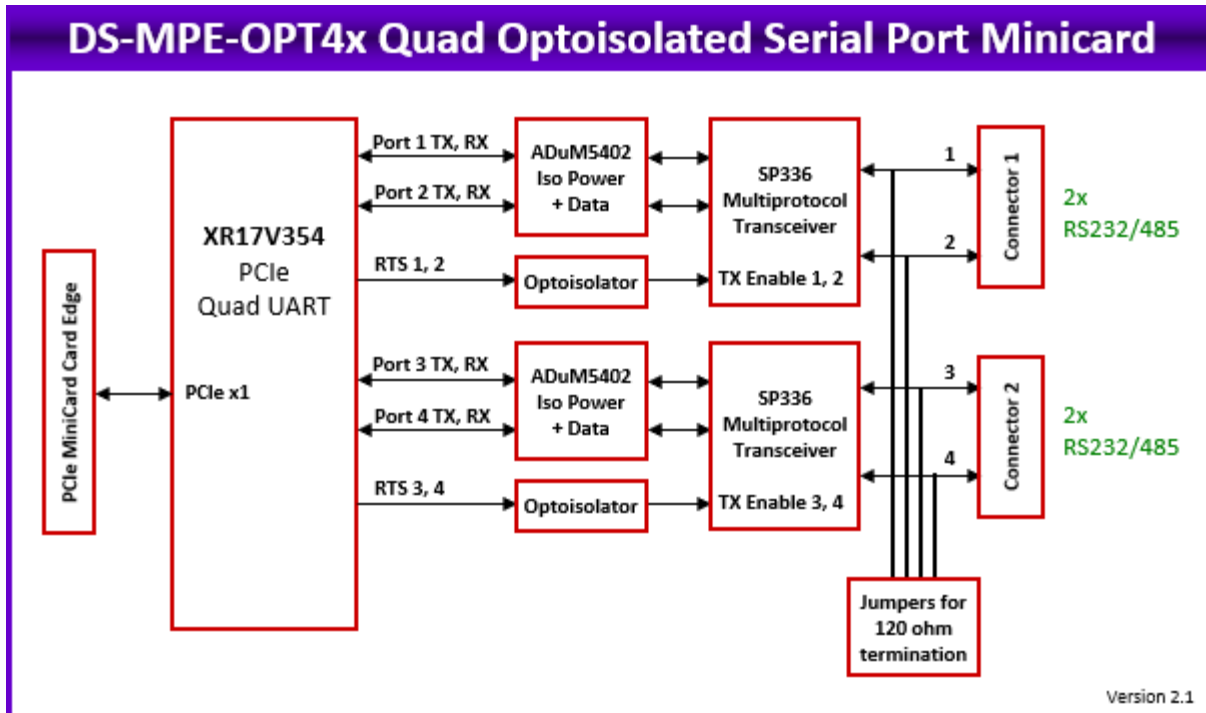
Specifications

Number of serial ports	4
Protocols	RS-232/485 on each port, configured in pairs
Maximum baud rate	RS-232: 1Mbps RS-485: 10Mbps
Termination	RS-485 jumper selectable
UARTs	Quad XR17V354 with PCIe interface
FIFO	256-byte TX/RX
Transceiver	SP336 multi-mode
Isolation	+/-500V input/output
Input power	+3.3VDC +/-5%
Power consumption	0.462W @ 3.3V
Software drivers	Windows 7, XP, Vista, 2000 Linux 2.6.16, 2.6.27, 2.6.31, 2.6.32
Form Factor	PCIe MiniCard full size
Dimensions	50.95 x 30mm (2 x 1.18")

Operating temperature	-40ºC to +85ºC
Operating humidity	5% to 95% noncondensing
MTBF	tbd
Weight	8.5g (0.3oz)
RoHS	Compliant

◆ Models and Accessories

DS-MPE-SER4OPT

available models:

DS-MPE-OPT4232	4-port RS-232 PCIe MiniCard Opto-Isolated Serial Module	Available
DS-MPE-OPT4485	4-port RS-485 PCIe MiniCard Opto-Isolated Serial Module	Available
DS-MPE-OPT4M22	2-port RS-232, 2-port RS-485 PCIe MiniCard Opto-Isolated Serial Module	Available

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