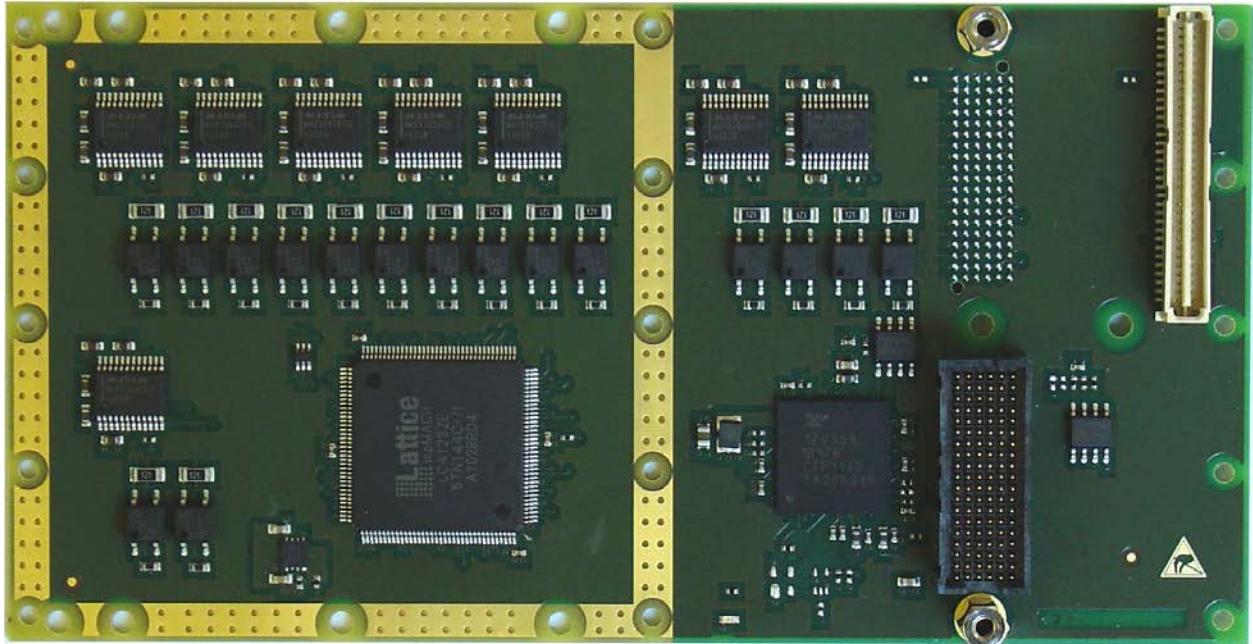# TXMC375 Conduction Cooled XMC, 8 Channel RS232/RS422/ RS485 Programmable Serial Interface

Application Information

The TXMC375 is a conduction cooled Switched Mezzanine Card (XMC) compatible module offering 8 channels of high performance RS232/RS422/RS485 programmable asynchronous serial interface with P14 I/O (TXMC375-10R) or P16 I/O (TXMC375-20R).

The serial channels can be individually programmed to operate as RS232, RS422 or RS485 full duplex/half duplex interface. In addition programmable termination is provided for the RS422/RS485 interfaces. After power-up all serial I/O lines are in a high impedance state.

Each RS232 channel supports RxD, TxD, RTS, CTS and GND. RS422 and RS485 full duplex supports a four wire interface (RX+, RX-, TX+, TX-) plus ground (GND). RS485 half duplex supports a two wire interface (DX+, DX-) plus ground (GND).

Each channel has 256 byte transmit and receive FIFOs to significantly reduce the overhead required to provide data to and get data from the transmitters and receivers. The FIFO trigger levels are programmable and the baud rate is individually programmable up to 1 Mbps for RS232 channels and 10 Mbps for RS422/RS485 channels. The UART offers readable FIFO levels.
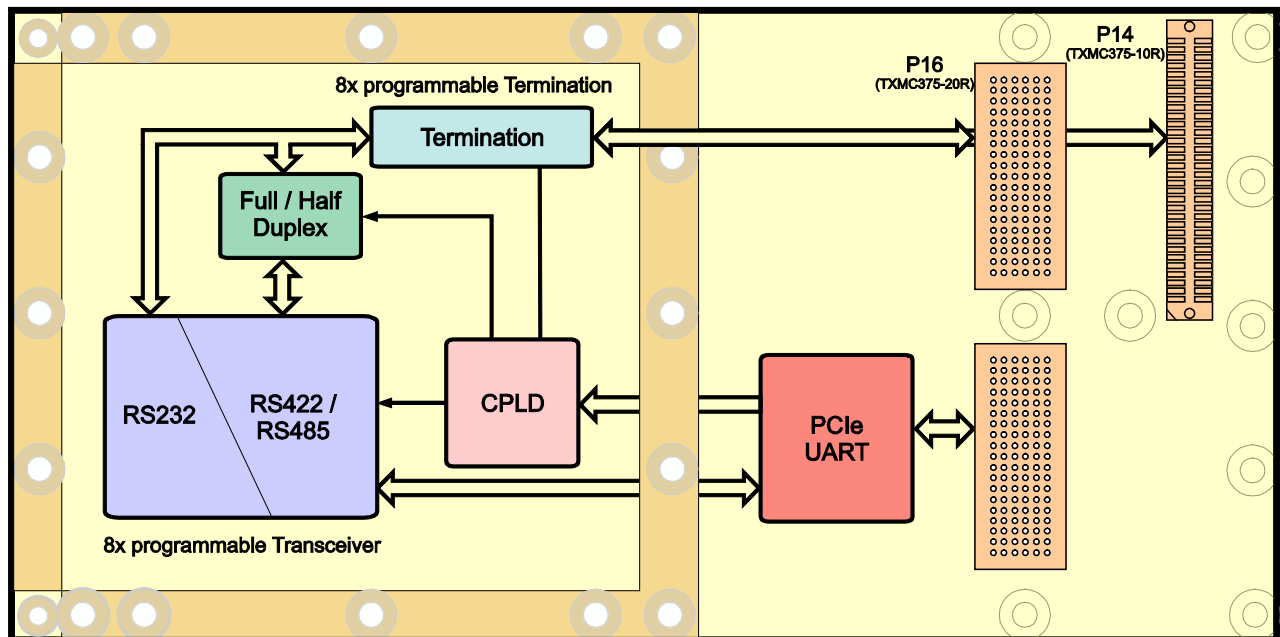
All serial channels use ESD protected transceivers. ESD protection is up to ±15KV.

Software Support (TDRV002-SW-xx) for different operating systems is available.

Technical Information

- Form Factor: Standard single-width XMC module conforming to ANSI/VITA 42.0-2008
  - Board size: 149 mm x 74 mm
  - x1 PCI Express (Base Specification 2.0 Gen 1) compliant interface conforming to ANSI/VITA 42.3-2006
  - IPMI resource: FRU hardware definition information stored in on-board EEPROM
- Asynchronous serial interface
- Octal UART: Exar XR17V358
- Programmable Interfaces:
  - RS232
  - RS422
  - RS485 full duplex
  - RS485 half duplex
  - Programmable Termination for RS422/RS485
- Support of RxD, TxD, RTS, CTS and GND for each RS232 channel; RxD+/-, TxD+/- and GND for each RS422/RS485 FD channel; D+/- and GND for each RS485 HD channel

- Programmable baud rates:
  - RS232: up to 1 Mbps
  - RS422/RS485: up to 10 Mbps
- 256 byte transmit FIFO per channel
- 256 byte receive FIFO per channel
- Readable FIFO levels
- Global Interrupt Source Register
- General Purpose 16 bit Timer/Counter
- Back I/O
  - TXMC375-10R: P14
  - TXMC375-20R: P16
- ESD protected transceiver (up to ± 15KV)
- Operating temperature -40°C to +85°C
- MTBF (MIL-HDBK217F/FN2 G_B 20°C) TXMC375-10R: 1.479.000 h

Order Information

RoHS Compliant

TXMC375-10R   ccXMC, 8 Channel Programmable RS232/RS422/RS485, P14 I/O
TXMC375-20R   ccXMC, 8 Channel Programmable RS232/RS422/RS485, P16 I/O

For the availability of non-RoHS compliant (leaded solder) products please contact TEWS.

Documentation

TXMC375-DOC   User Manual

Software

TDRV002-SW-25   Integrity Software Support
TDRV002-SW-42   VxWorks Software Support (Legacy and VxBus-Enabled Software Support)
TDRV002-SW-65   Windows Software Support
TDRV002-SW-72   LynxOS Software Support
TDRV002-SW-82   Linux Software Support
TDRV002-SW-95   QNX Software Support

For other operating systems please contact TEWS.

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TEWS TECHNOLOGIES GmbH
Am Bahnhof 7   25469 Halstenbek, Germany
Phone: +49 (0) 4101 4058 0   Fax: +49 (0) 4101 4058 19
e-mail: info@tews.com   www.tews.com