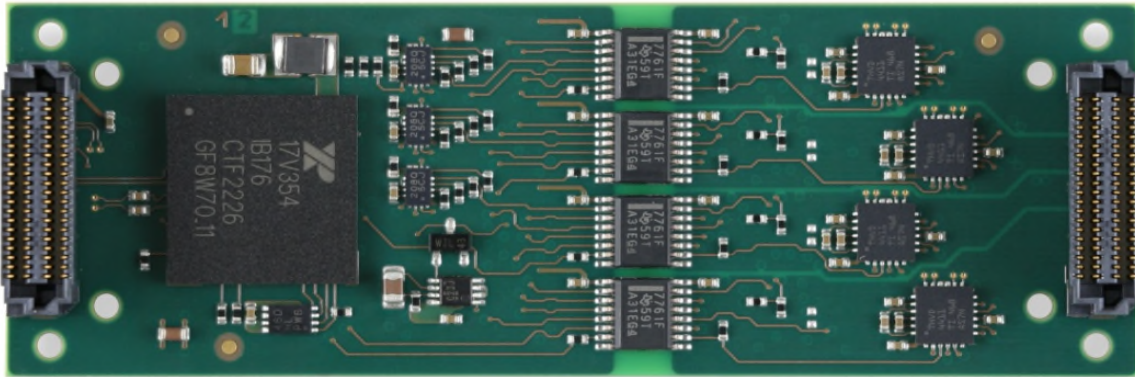


TQMC402 4 Channel isolated RS232/RS422/RS485 Programmable Serial Interface



TQMC402-10R

Application Information

The TQMC402 is a VITA 93.0 compatible Small Form Factor Mezzanine Card (QMC) offering 4 UART channels with multiprotocol transceivers. Each channel can be programmed to operate as an RS232, RS422/RS485 full-duplex or RS485 half-duplex interface. Each of the four channels are isolated from the system and against each other.

Each RS232 channel supports Rx/D, Tx/D 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). On-chip switchable termination of 120 Ω is provided for the RS422/RS485 interfaces.

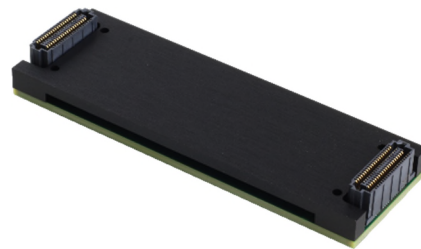
Selectable data rates are up to 1 Mbps for RS232 mode and 20 Mbps for RS422/RS485 half-duplex and full-duplex mode. Additionally a reduced slew rate mode with lower EMI provides data rates with max. 250 kbps for RS232 and max. 500 kbps for RS422/RS485.

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. The UART offers readable FIFO levels.

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

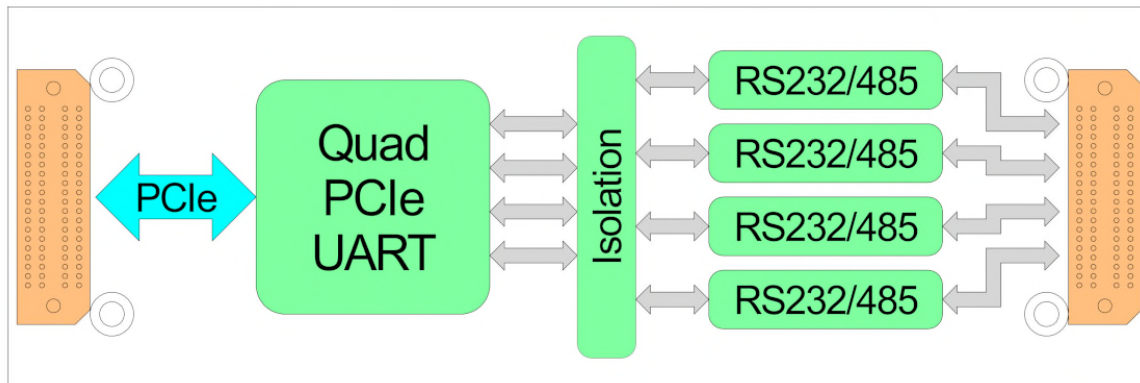
The TQMC402 is available as air cooled and conduction cooled variant.



Conduction Cooled QMC

Technical Information

- Form Factor: Standard single QMC module conforming to VITA 93.0
 - Board size: 26 mm x 78.25 mm
- PCIe Revision 2.0 Gen1 x1 compliant interface
- IPMI resource: FRU hardware definition information stored in on-board EEPROM
- Asynchronous serial interface
- Quad UART: Exar XR17V354
- Programmable Interfaces:
 - RS232
 - RS422
 - RS485 full-duplex
 - RS485 half-duplex
- On-chip switchable 120 Ω Termination for each RS422/RS485 channel
- Rx/D, Tx/D and GND for each RS232 channel
- Rx/D+/-, Tx/D+/- and GND for each RS422/RS485 FD channel; D+/- and GND for each RS485 HD channel
- Programmable data rates:
 - RS232 up to 1 Mbps
 - RS422/RS485 up to 20 Mbps
- 256 byte transmit and receive FIFO per channel
- Readable FIFO levels
- General Purpose 16 bit Timer/Counter
- Operating temperature -40 °C to +85 °C
- MTBF (MIL-HDBK217F/FN2 GB 20 °C)
 - TQMC402-10R: 1584000 h



Block Diagram

The Embedded I/O Company

Order Information

RoHS Compliant

TQMC402-10R-A 4 Channel isolated RS232/RS422/RS485 Programmable Serial Interface, air cooled

TQMC402-10R-H 4 Channel isolated RS232/RS422/RS485 Programmable Serial Interface, conduction cooled

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

For the availability of conformal coated products please contact TEWS.

Software

TDRV002-SW-25 GreenHills Integrity Device Driver

TDRV002-SW-42 VxWorks Device Driver

TDRV002-SW-65 Windows Device Driver

TDRV002-SW-82 Linux Device Driver

TDRV002-SW-95 QNX Neutrino Device Driver

For other operating systems please contact TEWS.