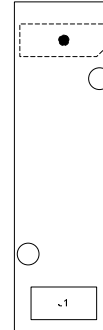


FEATURES

- MDK-4 Interface Form Factor
- 2 RS-485 Compliant Outputs
- 2 RS-485 Compliant Inputs
- 1 or 2 Port Configuration
 - 2 Ports with no hardware flow control, up to 921600 BAUD
 - 1 Port with hardware flow control, up to 921600 BAUD

APPLICATIONS

- External Hardware Interfacing
- Embedded Instrumentation



DESCRIPTION

The MDK4-RS485 provides standard RS-485 (EIA-485) compliant interface signals for use by one or two MityDSP embedded Universal Asynchronous Receive/Transmit (UART) cores. The card allows addition of standard serial interface ports to a MityDSP hardware development kit platform. The MDK4-RS485 is compatible with the MityDSP hardware and software development kit API. Refer to the User's Manual provided with the libraries for further information.

A block diagram of the MDK4-RS485 is illustrated in Figure 1. Simple level translation is provided on the card, the 2 inputs and 2 outputs are routed directly to the FPGA I/O pins on the MDK-4 form factor interface.

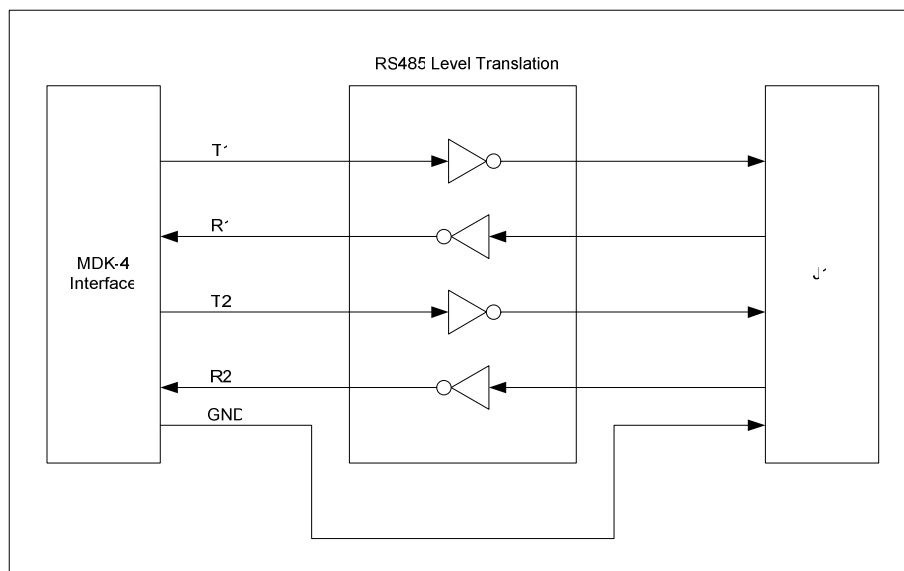


Figure 1 MDK4-RS485 Block Diagram

ABSOLUTE MAXIMUM RATINGS

If Military/Aerospace specified cards are required, please contact the Critical Link Sales Office or unit Distributors for availability and specifications.

Storage Temperature Range -65 to 80C
 Shock, Z-Axis ±10 g
 Shock, X/Y-Axis ±10 g

OPERATING CONDITIONS

Ambient Temperature 0 to 55C
 Range
 Humidity 0 to 95%
 Non-
 condensing
 Vibration, Z-Axis TBS
 Vibration, X/Y-Axis TBS

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Conditions	Typical	Limit	Units (Limits)
Power Dissipation					
Notes:					

MDK-4 Socket Interface Description

The bottom connector of the MDK4-RS485 card uses the required Hirose FX6-20P-0.8SV 20 position socket. The pin assignments for the card are listed in Table 1.

Table 1 MDK-8 Connector Pin Assignments

Pin	Signal	Pin	Signal
A1	R1	B1	NC
A2	T1	B2	NC
A3	R2	B3	+3.3V
A4	T2	B4	+3.3V
A5	+15 V	B5	GND
A6	+15 V	B6	GND
A7	NC	B7	RSV
A8	NC	B8	RSV
A9	RSV	B9	RSV
A10	RSV	B10	RSV

RS-485 Connector Interface Description

The RS-485 interface to the MDK4-RS485 uses a dual row shrouded 10 pin connector on standard 0.100 inch spacing.

Table 2 J1 Pin Assignments

Pin	I/O	Signal	Pin	I/O	Signal
1	-	GND	2	O	R2-
3	I	R2+	4	O	T2-
5	I	T2+	6	O	T1+
7	I	R1+	8	O	T1-
9	I	R1-	10	-	N/C

Software API and Supported Modes

The MityDSP software and firmware development kit includes a core interface and C++ API for interfacing to UART ports. Depending on the desired configuration, users may opt for 1 or 2 UART cores (with or without flow control, respectively). Refer to the MDK Software User's Guide for more information.