

High Voltage Protection T/R Switch with Clamp Diodes

General Description

The Supertex MD0101DB1 demoboard contains two MD0101 packages providing eight T/R switches in the system.

This demoboard replaces eight discrete diode bridge protection circuits. The input of the MD0101DB1 is called T_x , which is connected to the output of the transmitter, and the output is called R_x , which is connected to the input of the receiver. The clamping diodes are integrated between the R_x and RGND. There is a 0Ω resistor connected between the RGND and the ground plane of the board. If external diodes are desired, the 0Ω resistor has to be removed and the external diodes can then be connected between the R_x and RGND.

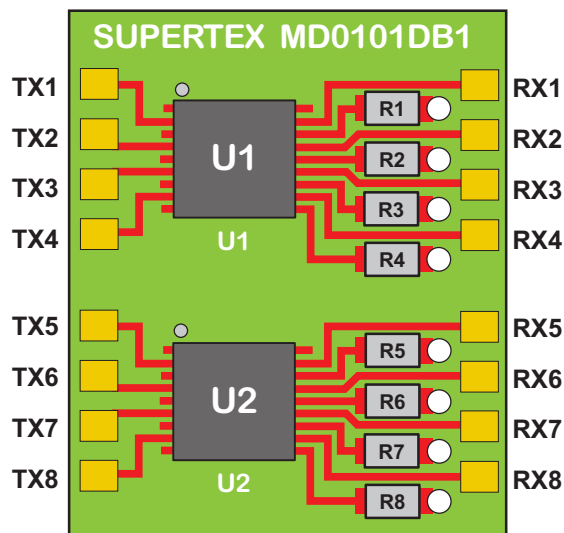
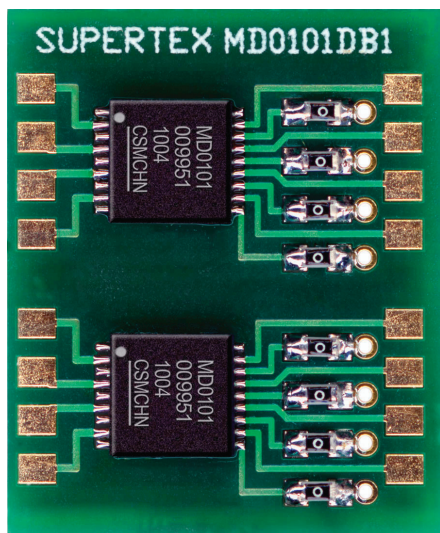
The MD0101DB1 is especially layed out so that all inputs are on one side and all outputs are on the other side of the board. This provides easy access and replacement on the system for testing.

This demoboard can be put into the system directly by removing the diode bridge connections between the transmitter and receiver.

Specifications

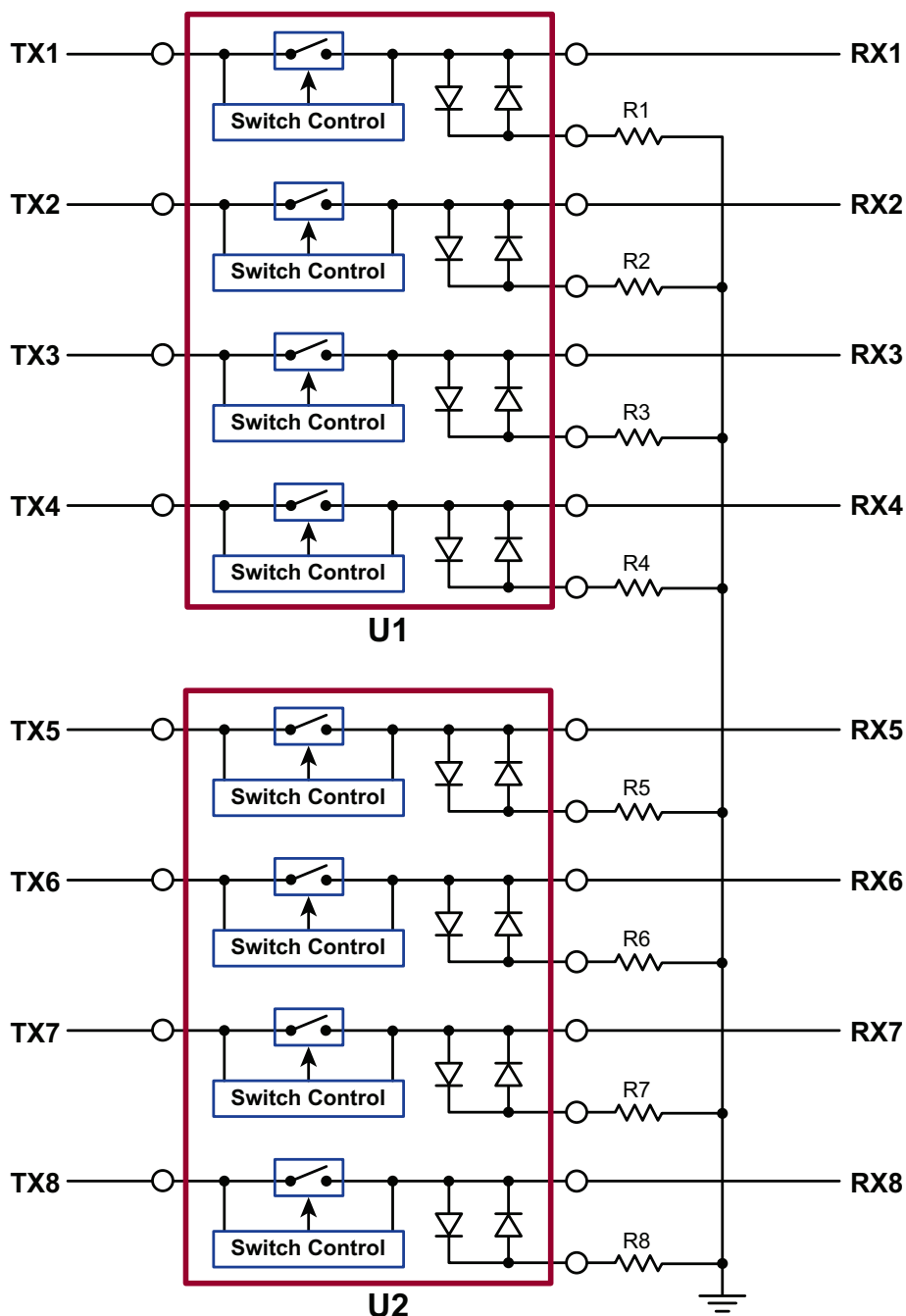
Parameter	Value
V_{tx-rx}	0V to $\pm 100V$
I_{PEAK}	$\pm 60mA$
T_{ON}	$\leq 20ns$
T_{OFF}	$\leq 20ns$

Board Layout and Connection Diagram



Actual Size: 22.0mm x 12.0mm

MD0101 Demoboard Circuit Diagram



Bill Of Materials

Part	Description	Value	Package	Manufacturer	Part Number
R1 - R8	Chip resistor	0Ω	0805	Yageo	RC0805JR-070RL
U1, U2	Quad T/R switch with clamp diodes	±100V, 15Ω	18-Lead 5x5 DFN	Supertex, inc	MD0101DK6-G

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