

# Connectors & Uart Switch

to prev top connector

to module

to next top connector

TX To Module

RX From Module

U2A 74LVC1G66

R1 10K

U2B 74LVC1G66

C2 100nF

Row End Switching circuit:

When this "Top Connector" board is the last board in the row:  
"Row End" Will be pulled HIGH.  
Tying "RX From Module" to "Data Return Path".

When this "Top Connector" board is NOT the last board in the row:  
"Row End" Will be pulled LOW.  
Disconnecting "RX From Module" from "Data Return Path".

# Power DC/DC

12V To 5V 2A Buck convertor.

The circuit diagram illustrates a 12V to 5V 2A Buck converter. The input is a +12V supply connected to the VIN pin (pin 1) of the XL1509-5.0 IC. A 22μF capacitor (C4) is connected in parallel with the input. The EN pin (pin 4) is connected to the input line, and a 100nF capacitor (C3) is connected between the EN pin and ground. The GND pin (pin 5) is connected to the common ground. The output of the converter is taken from the OUT pin (pin 2), which is connected to a 68μH inductor (L1). The other end of the inductor is connected to the +5V output terminal. A Schottky diode (D1, SS210) is connected in parallel with the output, with its cathode to the output line and its anode to ground. A 100μF capacitor (C1) is connected in parallel with the output. The feedback pin (FB, pin 3) is connected to the output line. The ground reference is marked as GND.

