

The diagram illustrates the internal wiring of a USB3.1C16PFSMT connector. The central component is a rectangular chip with pins labeled B1 through B12 on the left and A1 through A12 on the right. The top of the chip is labeled "USB3.1C16PFSMT" and "USB3.1C16PFSMT".

**Pin Connections:**

- Pin B1:** Connected to GND.
- Pin B2:** Connected to GND.
- Pin B3:** Connected to GND.
- Pin B4:** Connected to VBUS.
- Pin B5:** Connected to CC2.
- Pin B6:** Connected to DP2.
- Pin B7:** Connected to DN2.
- Pin B8:** Connected to SBU2.
- Pin B9:** Connected to VBUS.
- Pin B10:** Connected to GND.
- Pin B11:** Connected to GND.
- Pin B12:** Connected to GND.
- Pin A1:** Connected to GND.
- Pin A2:** Connected to GND.
- Pin A3:** Connected to GND.
- Pin A4:** Connected to VBUS.
- Pin A5:** Connected to CC1.
- Pin A6:** Connected to DP1.
- Pin A7:** Connected to DN1.
- Pin A8:** Connected to SBU1.
- Pin A9:** Connected to VBUS.
- Pin A10:** Connected to GND.
- Pin A11:** Connected to GND.
- Pin A12:** Connected to GND.

**External Components and Connections:**

- R6 (5.1k):** A resistor connected between the VBUS line and the CC2 pin (B5).
- R5 (5.1k):** A resistor connected between the CC1 pin (A5) and the VBUS line.
- VBUS:** The main power line for the USB connection, shown as a green line.
- D+ and D-:** Differential data lines, shown as blue lines.
- CC1 and CC2:** Configuration pins, shown as blue lines.
- SBU1 and SBU2:** Signal pins, shown as blue lines.
- DP1 and DP2:** Data pins, shown as blue lines.
- DN1 and DN2:** Data pins, shown as blue lines.
- GND:** Ground connection, shown as a green line.

Diagram of the J1 connector pinout (HDR-M-2.54\_1x5):

- Pin 1: VCC
- Pin 2: VCCIO
- Pin 3: RX
- Pin 4: TX
- Pin 5: GND

A circuit diagram showing a parallel LC network. A green wire connects VCC to GND through a parallel combination of capacitor C2 (100nF) and capacitor C3 (4.7uF). The components are labeled in blue text.

The schematic diagram illustrates the FT230XQ-R USB-to-UART bridge IC. The IC is shown with its pins and connections. Key components include:

- U1 (FT230XQ-R)**: The main IC, shown in a red box.
- VCCIO**: 3.3V supply for the IC's I/O pins.
- VCC**: 5V supply for the IC's internal logic.
- GND**: Ground connections.
- CTS**: Clear To Send signal line.
- RTS**: Ready To Send signal line.
- TX**: Transmitter output pin.
- RX**: Receiver input pin.
- TX\_LED**: Transmitter LED indicator.
- RX\_LED**: Receiver LED indicator.
- R3 (270R)**: Resistor connected to the TX pin.
- R4 (270R)**: Resistor connected to the RX pin.
- R2 (27R)**: Resistor connected to the TX pin.
- R1 (27R)**: Resistor connected to the RX pin.
- R7 (0)**: Resistor connected to the TX pin.
- C1 (10nF)**: Capacitor connected to the VBUS line.
- C4 (100nF)**: Capacitor connected to the VCCIO pin.
- C5 (47pF)**: Capacitor connected to the TX pin.
- C6 (47pF)**: Capacitor connected to the RX pin.
- FB1 (600)**: Ferrite bead connected to the VBUS line.
- VBUS**: USB bus voltage line.
- D+** and **D-**: USB data lines.

Internal regulator has max current of 50mA @ 3.3V.  
Remove R7 on circuit board if using external voltage regulator.  
This will prevent the chip's regulator from competing with the external one.  
The external regulator must output 1.8-3.3V to power the chip.

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