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Power supply

The schematic diagram illustrates the power supply circuit for the MCP73831 module. It features a USB connector (D+, D-, VBUS, GND) connected to a USB-to-serial module (53048-02). The module's VBAT pin is connected to the BAT pin of the MCP73831. The MCP73831's VBUS pin is connected to the VBUS line, which is also connected to a 10uF capacitor (C13) and a 22k resistor (R15) to ground. The MCP73831's VDD pin is connected to the VBUS line, and its VSS pin is connected to ground. The MCP73831's STAT pin is connected to the PROG pin of the MCP1702-SOT23+3V3. The MCP1702-SOT23+3V3's In pin is connected to the VBUS line, and its Out pin is connected to the VBUS line. The MCP1702-SOT23+3V3's VSS pin is connected to ground. The MCP1702-SOT23+3V3's Out pin is connected to the VBUS line, which is also connected to a 2uF capacitor (C15) to ground.

MCU

Pin connections for PIC16F1829:

MCU Pin	MCU Label	PIC16F1829 Pin	PIC16F1829 Label
1	VDD	13	SDA
20	VSS	12	DISP_PWR
19	PGD	11	SCL
18	PGC	10	JOY2
4	MCLR	16	MUX2
17	PAN_EN	15	MUX3
3	ADOUT	14	MUX1
2	ADIN	7	VBAT_D
8	JOY1	6	ACS
9	CHMON	5	ACLK

Additional connections shown in the diagram:

- MCU PGD connected to PIC16F1829 PGD via a 22k resistor (R14).
- MCU PGC connected to PIC16F1829 PGC via a 2uF capacitor (C11).
- PIC16F1829 VDD connected to +3V3 via a 2uF capacitor (C11).

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