Microcontroller

Programming Header 6-Pin ISP

Indicator LEDs

Decoupling Capacitors

Note:
- External oscillator at 16MHz to provide a stable clock for use as the microcontroller clock source.

DTR will spike high the other side of the capacitor on a low — high edge if the microcontroller is on, which results in a Reset pin voltage of Vcc. The DTR signal voltage, the Reset pin is 13V tolerant, so this should be okay as long as both Vcc and DTR signals are 5V tolerant. When the microcontroller is on, the opposite side of the DTR capacitor will be at Vcc.
- On a high — low transition of DTR, the capacitor voltage must not change instantaneously, which means that the opposite side of the DTR capacitor will also be pulled low. Since there is no current flowing into the Reset pin, the voltage on the Reset pin is pulled down to the DTR logic level. The capacitor then slowly fills and the Reset pin voltage increases as a result of the RC time constant. Minimum Reset pull time must be 2.5ns and the current time constant is equal to 1ms, so there should be plenty of time for the microcontroller to detect the reset.

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