



Figure 1-2. User Mode Pinout

1.5.1 Power Supply (V_{DD} and V_{SS})

Power is supplied to the MCU through V_{DD} and V_{SS}. V_{DD} is connected to a regulated +5-volt supply and V_{SS} is connected to ground.

Very fast signal transitions occur on the MCU pins. The short rise and fall times place very high short-duration current demands on the power supply. To prevent noise problems, take special care to provide good power supply bypassing at the MCU. Use bypass capacitors with good high-frequency characteristics and position them as close to the MCU as possible. Bypassing requirements vary, depending on how heavily the MCU pins are loaded.

1.5.2 Oscillator Pins (OSC1 and OSC2)

The OSC1 and OSC2 pins are the control connections for the on-chip oscillator. The OSC1 and OSC2 pins can accept:

1. A crystal or ceramic resonator, as shown in [Figure 1-3 \(a\)](#)
2. An external clock signal, as shown in [Figure 1-3 \(b\)](#)