



Figure 1-2. MC68HC05JB4 Pin Assignment

1.4 FUNCTIONAL PIN DESCRIPTION

The following paragraphs give a description of the general function of each pin assigned in Fig. 1-2 and Fig. 1-3.

1.4.1 V_{DD} AND V_{SS}

Power is supplied to the MCU through V_{DD} and V_{SS} . V_{DD} is the positive supply, and V_{SS} is ground. The MCU operates from a single power supply.

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, special care should be taken to provide good power supply bypassing at the MCU by using bypass capacitors with good high-frequency characteristics that are positioned as close to the MCU as possible. Bypassing requirements vary, depending on how heavily the MCU pins are loaded.

1.4.2 OSC1, OSC2

The OSC1 and OSC2 pins are the connections for the on-chip oscillator. The OSC1 and OSC2 pins can accept the following sets of components:

1. A crystal as shown in **Figure 1-3(a)**
2. A ceramic resonator as shown in **Figure 1-3(a)**
3. An external clock signal as shown in **Figure 1-3(b)**

The frequency, f_{OSC} , of the oscillator or external clock source is divided by two to produce the internal operating frequency, f_{OP} . If the internal operating frequency is 3MHz, then the external oscillator frequency will be 6MHz. For LS USB 1.5MHz