52con Carne Manual:

Features and Operation

Description

The 52con Carne module is a development board for the SX48/52 microcontrollers intended for use with the SX-Key or SX-Blitz development tools. Due to the TQFP and PQFP package style of the SX48/52 microcontrollers, prototyping and development with them can be a challenge. The 52con Carne module solves this problem by providing access to all the needed pins of the SX52 in a 48-pin, Dual In-line Package (DIP). This module is sized to fit in standard breadboards that have 0.1" pin spacing. When used in this fashion the module should fit symmetrically across the center channel of the breadboard.

Size and Pin Configuration

The following diagram indicates the size and pin connections of the 52con Carne module.

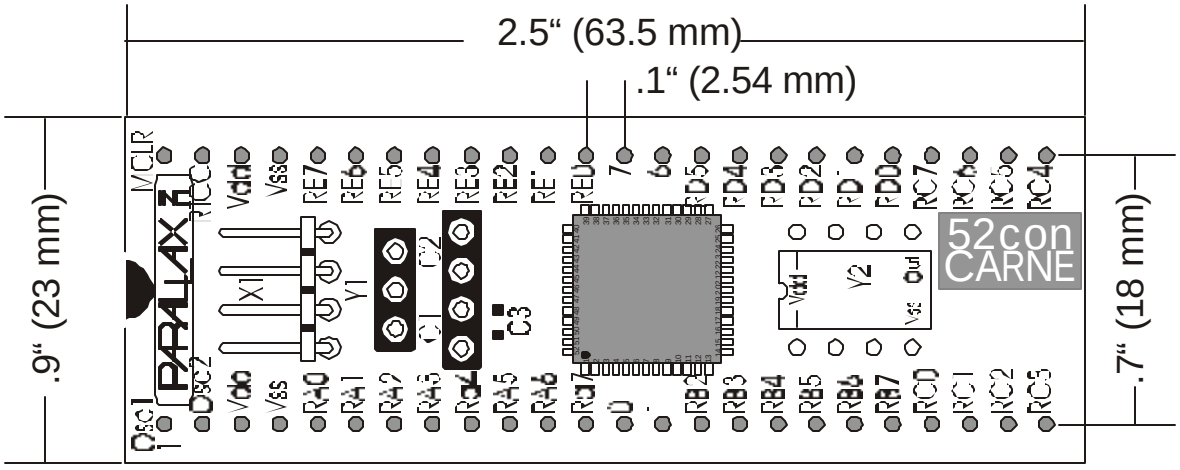

Figure 1: 52con Carne Diagram

Pins 1 through 4 provide access to the SX52's OSC1, OSC2, Vdd and Vss pins, respectively. They are arranged in the same order as on the SX-Key and SX-Blitz development tools to allow for breadboard connection to these devices.

The right-angle header (X1) allows for direct connection to the SX-Key or SX-Blitz tools as shown in Figure 2.

The 3-pin socket (Y1) is intended for insertion of 3-pin ceramic resonators or 2-pin crystals (leaving the center pin empty). This provides the SX52 with an independent clock source for testing when the SX-Key is not connected. **NOTE: The external clock source must be left disconnected while debugging with the SX-Key.**

There are two 2-pin sockets below the Y1 socket, labeled C1 and C2. These are intended for loading capacitors that may be needed to properly balance the clock source that is connected to Y1.

The 52con Carne provides though-hole solder points for an 8-pin DIP socket, labeled Y2. The Y2 area will accommodate a 300-mil wide, 8-pin socket and a clock-oscillator pack. This could be used as an alternative to a

crystal or resonator as the clock source. **Note: When a clock-oscillator pack is used, it provides a clock signal to the OSC1 pin of the SX52 chip only; the OSC2 pin is not connected and its function should be disabled in the source code before downloading. Use the DRIVEOFF device setting to accomplish this.**

The Vdd pin (either pin 3 or 46) should be connected to a regulated source of +5 VDC and the Vss pin (either pin 4 or 45) should be connected to ground. The MCLR pin should also be connected to +5 VDC for normal operation. See Figure 2. **Note: Power supply should be able to supply 5 vdc @ 1 A (or greater).**

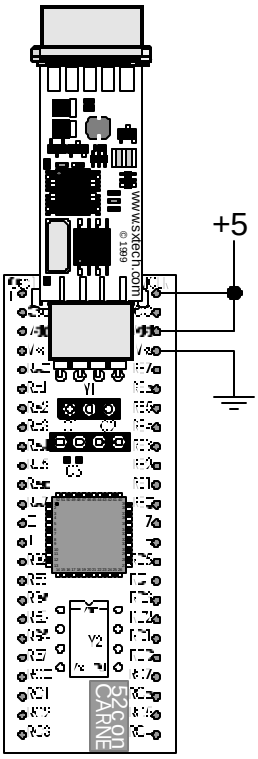

Figure 2: 52con Carne Connection Diagram

Development Considerations

Even though the 52con Carne comes with an SX52 on-board, you can still use it to develop for an SX48. The SX52 chip is functionally the same as the SX48, except that the SX52 has 4 additional pins (RA4 – RA7). To use the 52con Carne for a project that will feature the SX48, simply program it like you would an SX48 and ignore the extra pins (RA4 – RA7).