

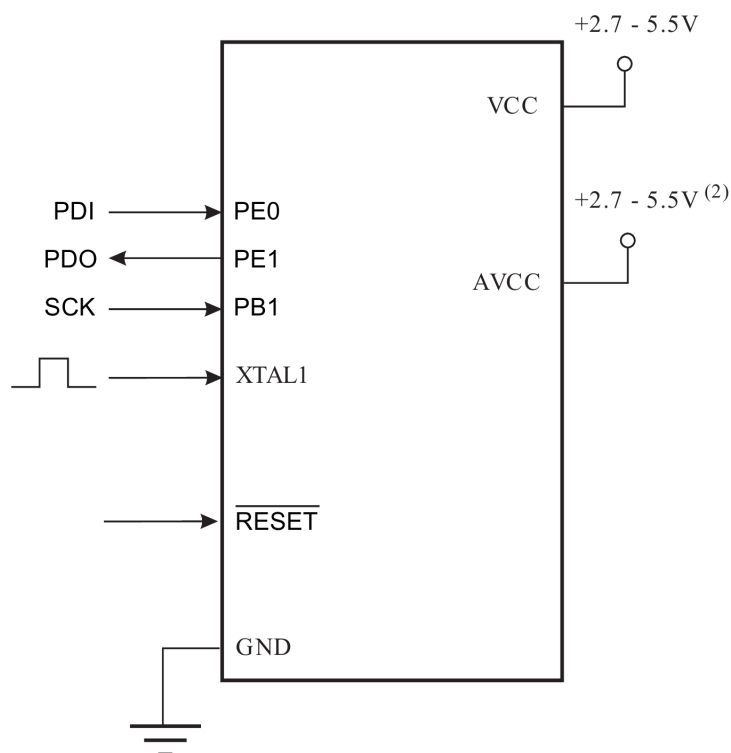
31.9. Serial Programming Pin Mapping

Even though the SPI Programming interface re-uses the SPI I/O module, there is one important difference: The MOSI/MISO pins that are mapped to PB2 and PB3 in the SPI I/O module are not used in the Programming interface. Instead, PE0 and PE1 are used for data in SPI Programming mode as shown in the following table.

Table 31-13 Pin Mapping SPI Serial Programming

Symbol	Pins	I/O	Description
MOSI (PDI)	PE0	I	Serial Data in
MISO (PDO)	PE1	O	Serial Data out
SCK	PB1	I	Serial Clock

Figure 31-7 Serial Programming and Verify⁽¹⁾



Note:

1. If the device is clocked by the Internal Oscillator, it is no need to connect a clock source to the XTAL1 pin.
2. $V_{CC} - 0.3 < AV_{CC} < V_{CC} + 0.3V$, however, AV_{CC} should always be within 2.7 - 5.5V.

When programming the EEPROM, an auto-erase cycle is built into the self-timed programming operation (in the Serial mode ONLY) and there is no need to first execute the Chip Erase instruction. The Chip Erase operation turns the content of every memory location in both the Program and EEPROM arrays into 0xFF.

Depending on CKSEL Fuses, a valid clock must be present. The minimum low and high periods for the Serial Clock (SCK) input are defined as follows:

Low: > 2 CPU clock cycles for $f_{ck} < 12\text{MHz}$, 3 CPU clock cycles for $f_{ck} \geq 12\text{MHz}$