PIC16CE625

PIC16CE625 Rev. A Silicon Errata Sheet

The PIC16CE625 (Rev. A) parts you have received conform functionally to the Device Data Sheet (DS40182**B**), except for the anomalies described below.

All the problems listed here will be addressed in future revisions of the PIC16CE625 silicon.

1. Module: RESET

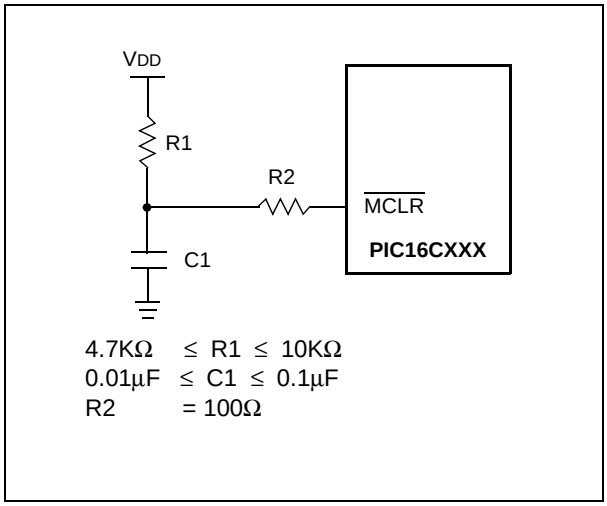
   The minimum specification for the $\overline{\text{MCLR}}$ must be met in order to RESET the PIC16CXXX. If a $\overline{\text{MCLR}}$ pulse occurs that is less that the minimum specification (parameter #30), improper device operation can occur.

   If the Minimum specification cannot be met, then an external circuit must be used to insure that any pulse width less than the specification will be filtered before it reaches the $\overline{\text{MCLR}}$ pin.

   Work Around

   A possible circuit is shown in Figure 1. Proper design validation needs to be done to ensure desired operation over the applications operating conditions

FIGURE 1: $\overline{\text{MCLR}}$ EXTERNAL CIRCUIT



Note: As with any windowed EPROM device, please cover the window at all times, except when erasing.

2. Module: OSCILLATOR

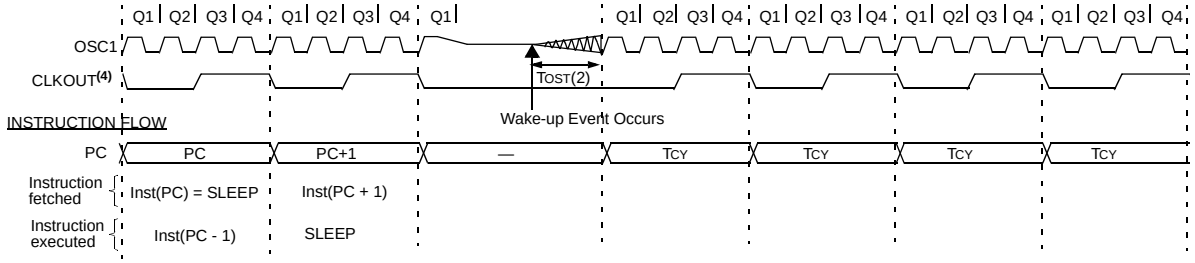
The Oscillator Start-up Timer (TOST) delay may not occur when the device wakes-up from sleep.

Figure 1 shows the start-up of the crystal after the event that causes the device to wake up from sleep mode (as specified in device data sheet). The start-up time (TOST) may not occur.

The events that wake-up the device from sleep are:

- An interrupt
- A WDT overflow (wake-up)
- A Brown-out Reset
- A $\overline{\text{MCLR}}$ reset

Figure 1: Wake-up from Sleep



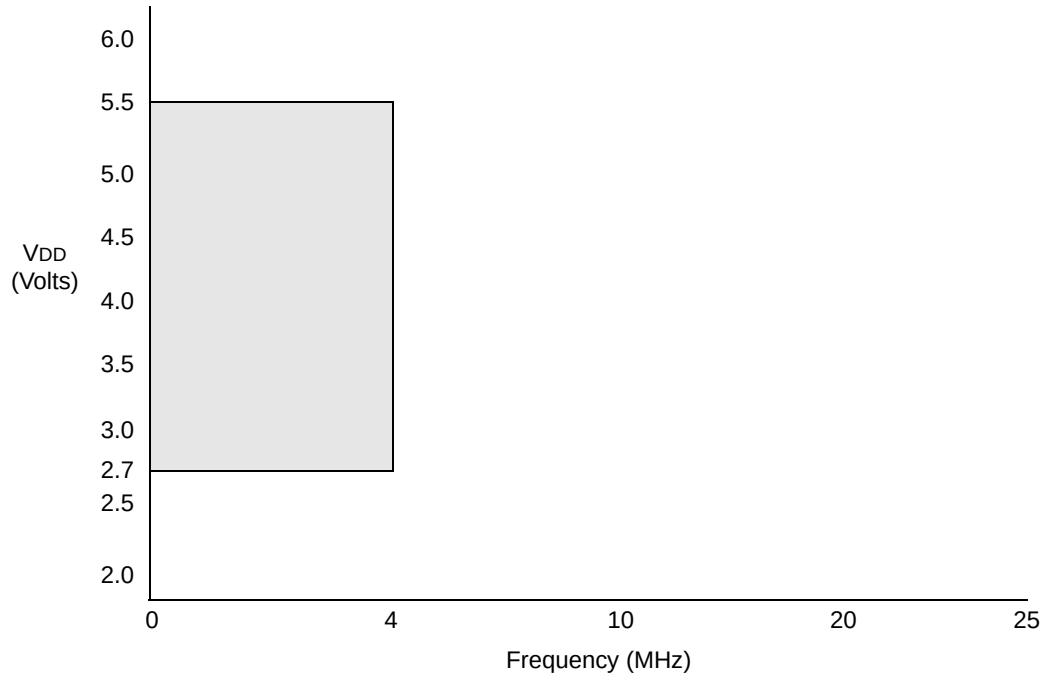
Note 1: For TOST delay to be enabled, the XT, HS or LP oscillator mode must be selected.
2: TOST = 1024TOSC, This delay may not occur, and every valid clock edge will generate internal device clocks.
3: CLKOUT is not available in these osc modes, but shown here for timing reference.

In applications where time based measurements are started immediately after wake-up from sleep, the suggested work around should be implemented.

Work Around

After the SLEEP instruction, do a software delay of 256 TCY (same as 1024 TOSC). At the Reset and Interrupt vector addresses, test to see if the device woke from sleep (the $\overline{\text{TO}}$ and $\overline{\text{PD}}$ bits), and if the device did wake from sleep, ensure that the total cycle delay is 256 TCY.

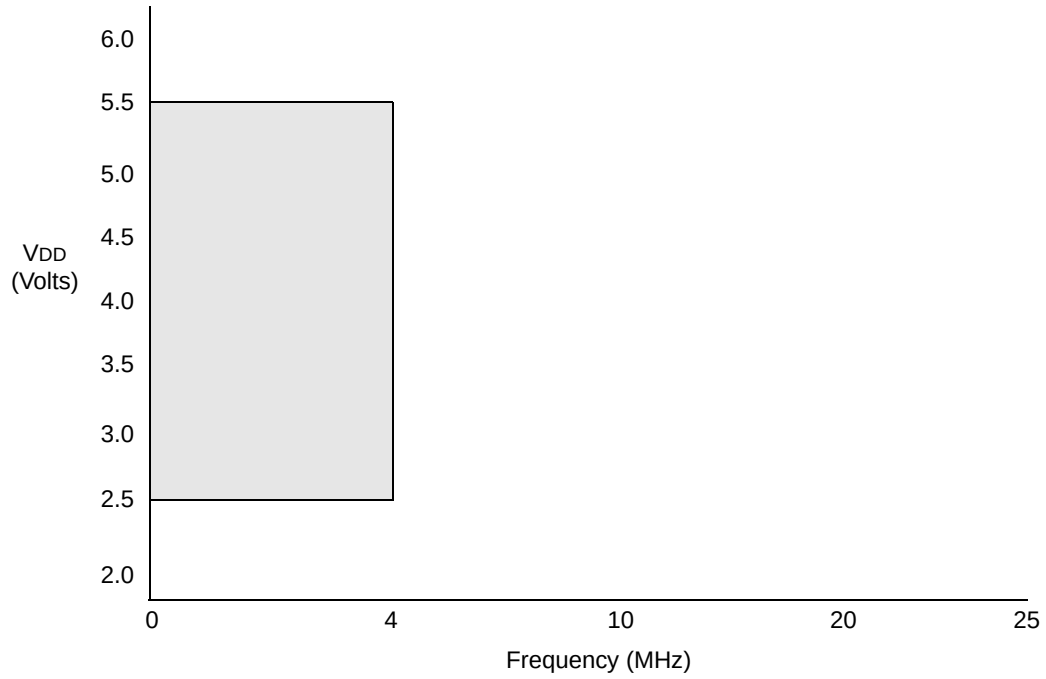
FIGURE 2: PIC16LCE625 VOLTAGE-FREQUENCY GRAPH, -40°C ≤ TA ≤ 0°C



Note 1: The shaded region indicates the permissible combinations of voltage and frequency.

2: The maximum rated speed of the part limits the permissible combinations of voltage and frequency. Please reference the Product Identification System section for the maximum rated speed of the parts.

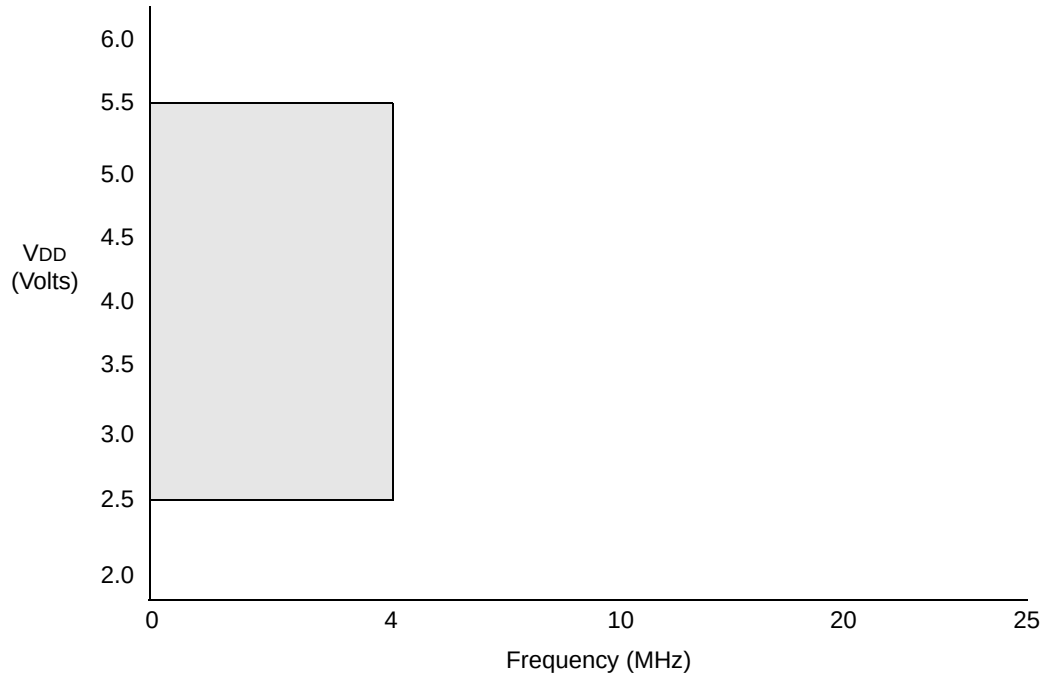
FIGURE 3: PIC16LCE625 VOLTAGE-FREQUENCY GRAPH, 0°C ≤ TA ≤ +70°C



Note 1: The shaded region indicates the permissible combinations of voltage and frequency.

2: The maximum rated speed of the part limits the permissible combinations of voltage and frequency. Please reference the Product Identification System section for the maximum rated speed of the parts.

FIGURE 4: PIC16LCE625 VOLTAGE-FREQUENCY GRAPH, +70°C ≤ TA ≤ +125°C



Note 1: The shaded region indicates the permissible combinations of voltage and frequency.

2: The maximum rated speed of the part limits the permissible combinations of voltage and frequency. Please reference the Product Identification System section for the maximum rated speed of the parts.

Clarifications/Corrections to the Data Sheet:

In the Device Data Sheet (DS40182**B**), the following clarifications and corrections should be noted.

none

NOTES:

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