Discrete Logic Replacement

Sequencer Phase Control

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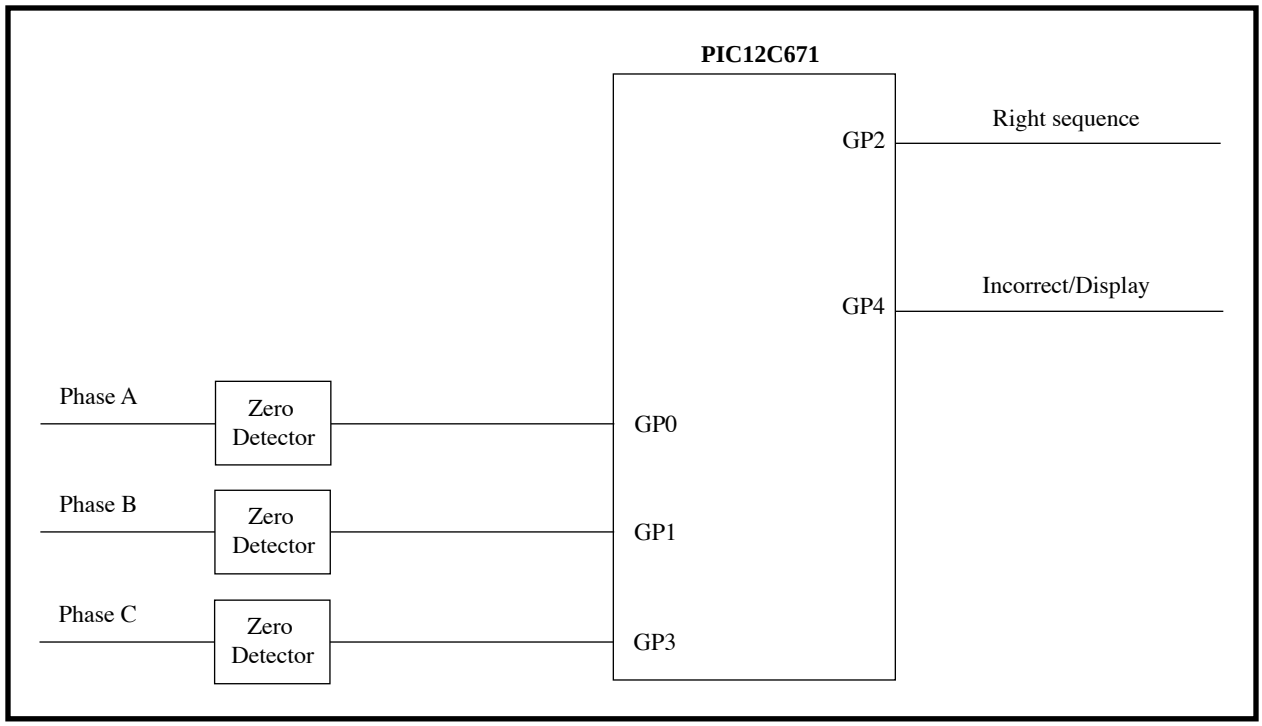
INTRODUCTION

This application of PIC12C671 may be useful and convenient replacing logical circuits in power electronic devices where it is necessary to track the sequence of AC-power phases (A, B, C). The idea of such a scheme is illustrated in Figure 1.

DESCRIPTION

The presented circuit checks for the right sequence of phases (A, B, C). In the correct conditions, the phases appear sequentially: first A, after that B and C. The outputs of Zero Detect's Blocks are connected to the PIC's inputs, which are programmed as interrupt inputs. The program code scans continuously the phases and sets a flag in a register of the PIC. Determination of the right sequence of phase occurrence is done as a software task of temporary majority identification, which is well known in microcontroller practice. When the sequence of phases is correct, the PIC switches on the signal "Right" sequence. If an incorrect sequence is determined, the PIC generates the signal "Incorrect/Display".

FIGURE 1:



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