

PIC16C925/926 Rev. A2 Silicon/Data Sheet Errata

The PIC16C925/926 Rev. A2 parts you have received conform functionally to the Device Data Sheet (DS39544A), except for the anomalies described below.

All the problems listed here will be addressed in future revisions of the PIC16C925/926 Rev. A2 silicon.

1. Module: LCD

The current source associated with the LCD module charge pump has a nominal output of 10 μ A. However, current regulation within individual devices may vary from approximately 8.5 to 12 μ A. Since this current sets up the VLCDADJ voltage, variation in this current can create noticeable LCD contrast variations when using the LCD charge pump.

Work around

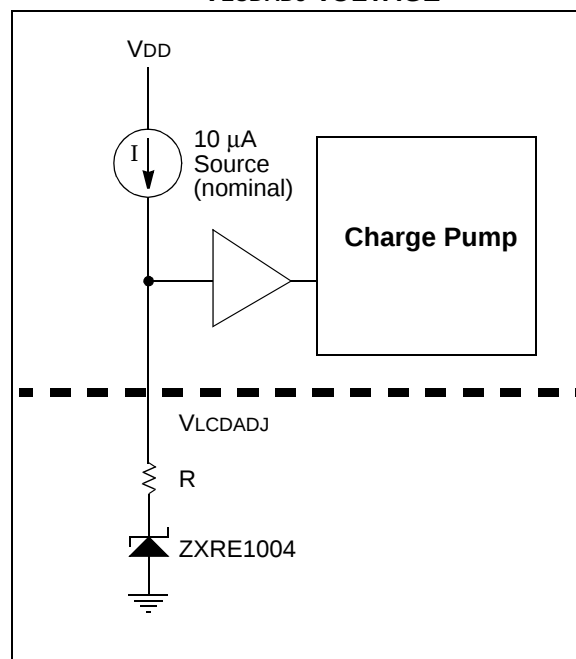
One method to compensate for the varying current regulation is to include a trim potentiometer in series between the VLCDADJ pin and ground. This method is currently noted in Figure 11-9 (page 95) of the Device Data Sheet.

To reduce the variation in the VLCDADJ voltage without using a trim potentiometer or trim resistors (which must be manually adjusted), it is possible to use a bandgap voltage reference circuit such as the 1.22V ZXRE1004 reference from Zetex, as shown in Figure 1. Resistor Rx placed in series with the bandgap reference and the VLCDADJ pin can be used to set a voltage higher than the bandgap reference voltage, if necessary. The voltage is determined by the formula

$$VLCDADJ = 1.22V + (I \times R)$$

As can be seen from this equation, a smaller series resistor results in smaller variations in VLCDADJ voltage.

FIGURE 1: ALTERNATE METHOD FOR REDUCING VARIATIONS IN VLCDADJ VOLTAGE



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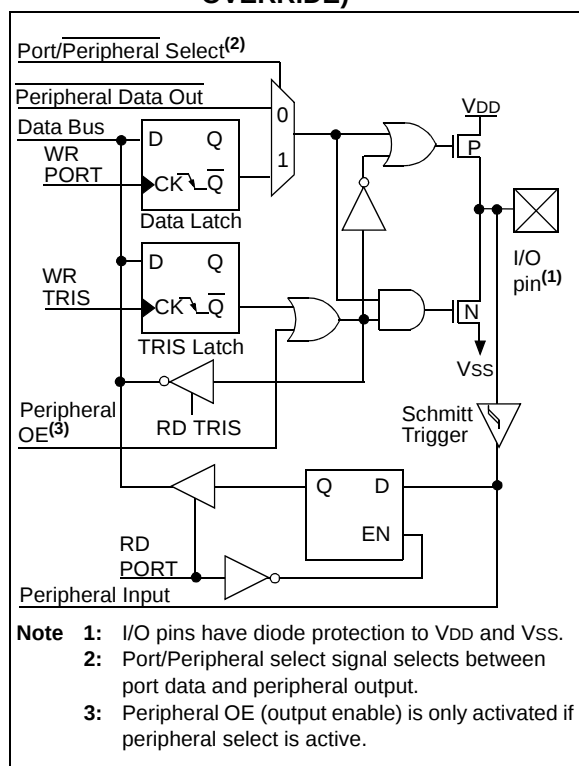
Clarifications/Corrections to the Data Sheet:

In the Device Data Sheet (DS39544A), the following clarifications and corrections should be noted.

1. Module: I/O Ports

The block diagram for PORTC presented in Figure 4-5 of the Device Data Sheet (DS39544A) is incorrect. The correct block diagram is shown in Figure 2.

FIGURE 2: PORTC BLOCK DIAGRAM (PERIPHERAL OUTPUT OVERRIDE)



2. Module: Memory (Special Function Registers)

The locations of the special function registers PMADR and PMDATH are transposed throughout the Device Data Sheet. Specifically, PMADR is located at address 18Eh, and PMDATH is located at address 18Dh.

This correction applies to the following specific locations, as well as anywhere else in the data sheet where the addresses of these registers may be referenced:

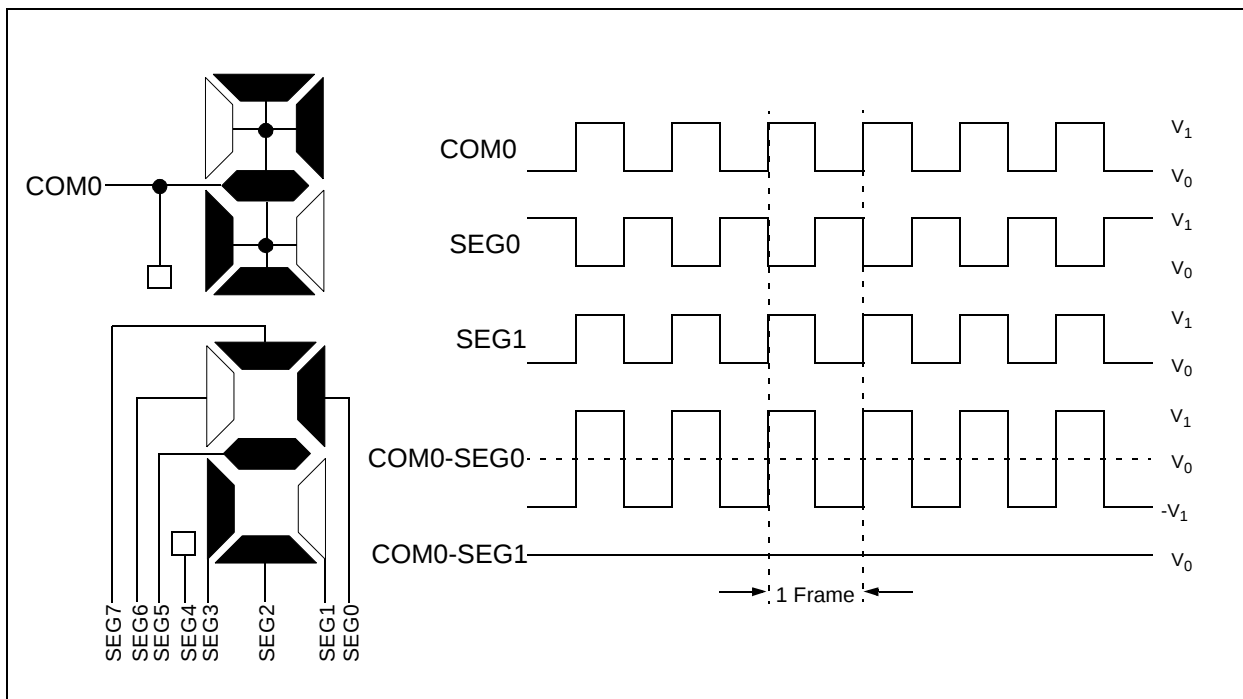
- Figure 2-3, page 13 (Register File Map, PIC16C925)
- Figure 2-4, page 14 (Register File Map, PIC16C926)
- Table 2-1, page 18 (Special Function Register Summary)
- Table 3-1, page 28 (Registers Associated with Program Memory)

3. Module: LCD

The illustrations of the LCD segment connections, their drive waveforms in various modes, and their descriptive titles, have been revised. The changes have been made to make the illustrations and mode descriptions more consistent with those shown for the PIC16C923/924 family of devices in DS30444E.

The diagrams in Figure 11-2 through Figure 11-5 (below and the following pages) replace the corresponding diagrams in Device Data Sheet (DS39544A).

FIGURE 11-2: WAVEFORMS IN STATIC DRIVE



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FIGURE 11-3: WAVEFORMS IN 1/2 MUX, 1/3 BIAS DRIVE

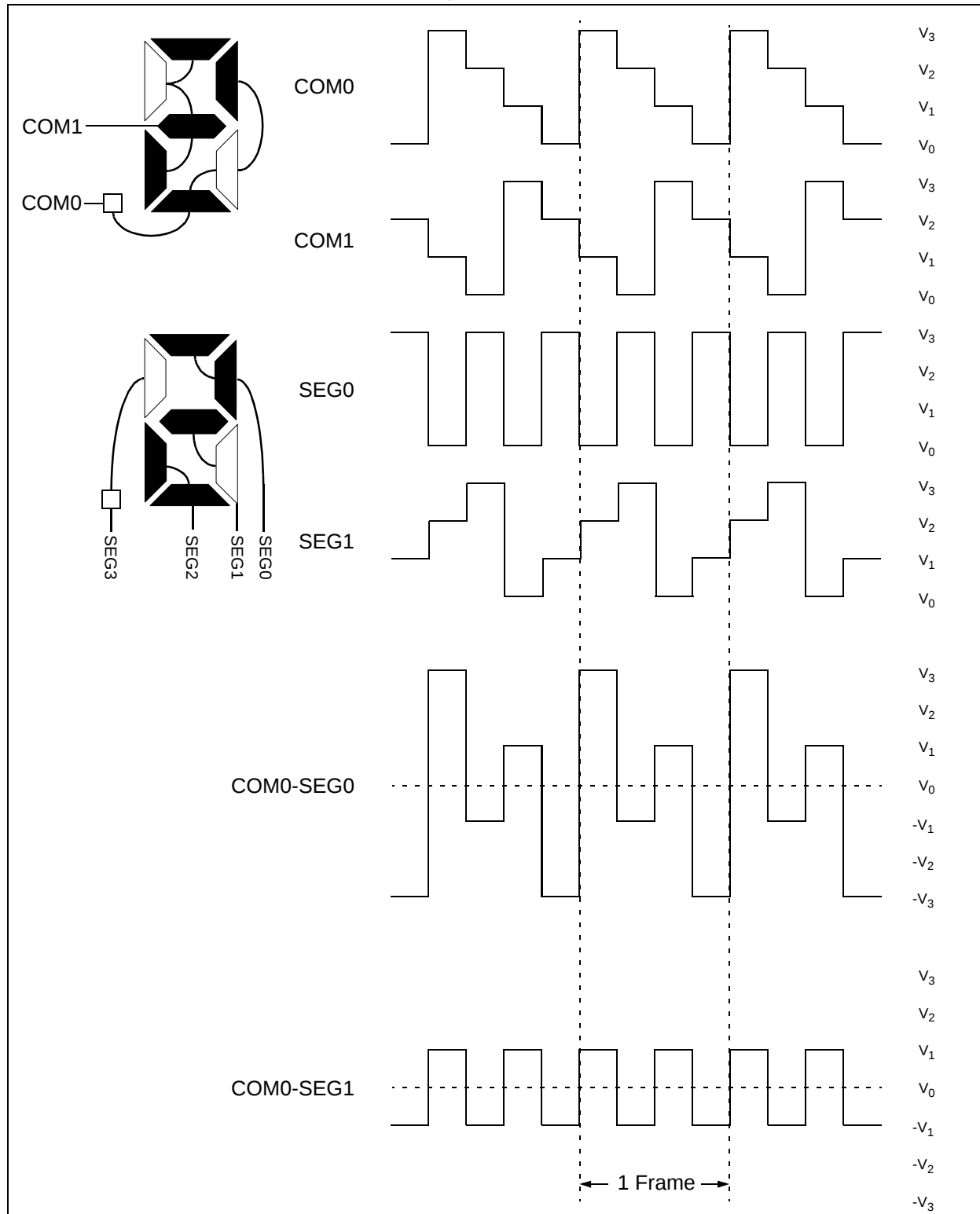
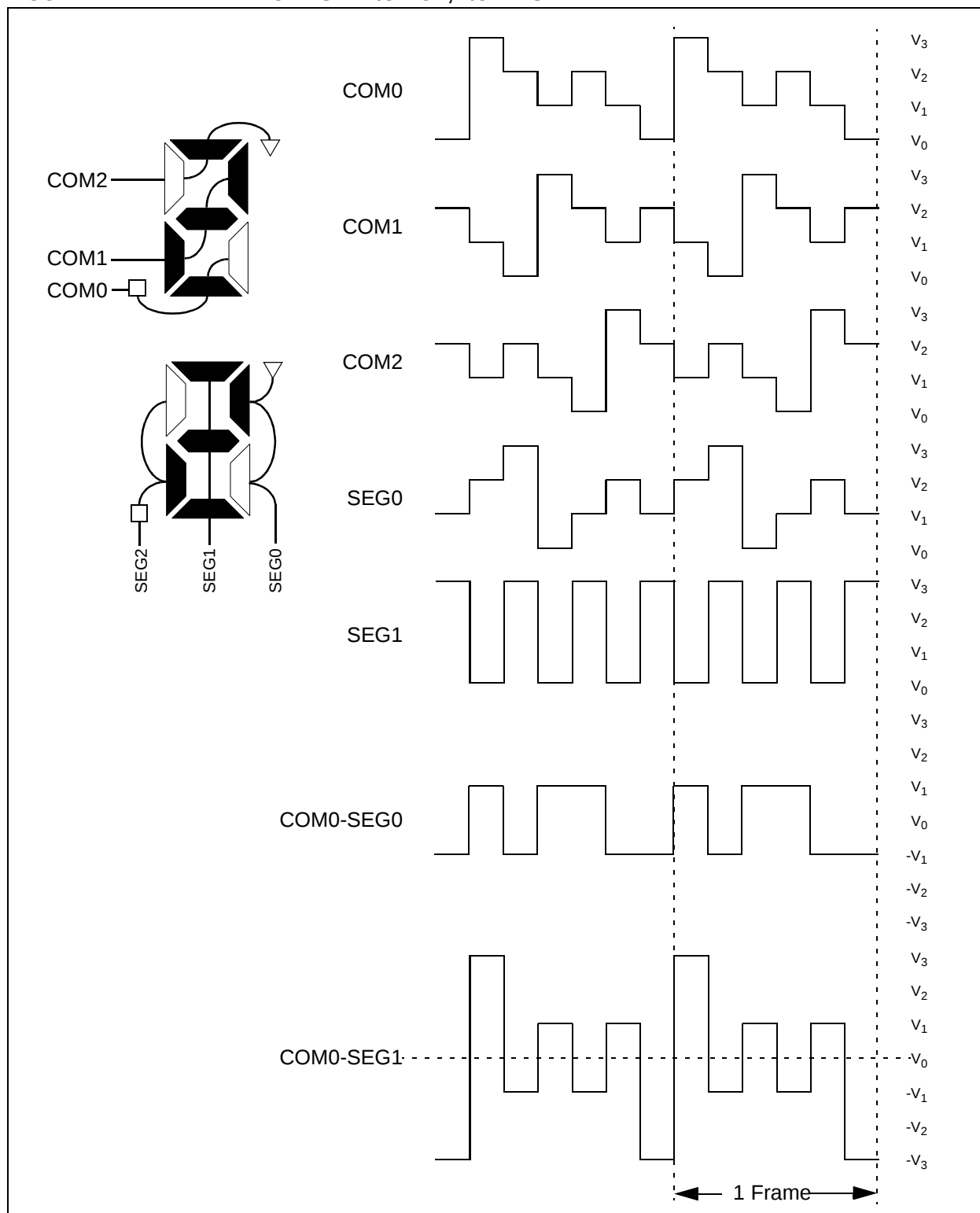
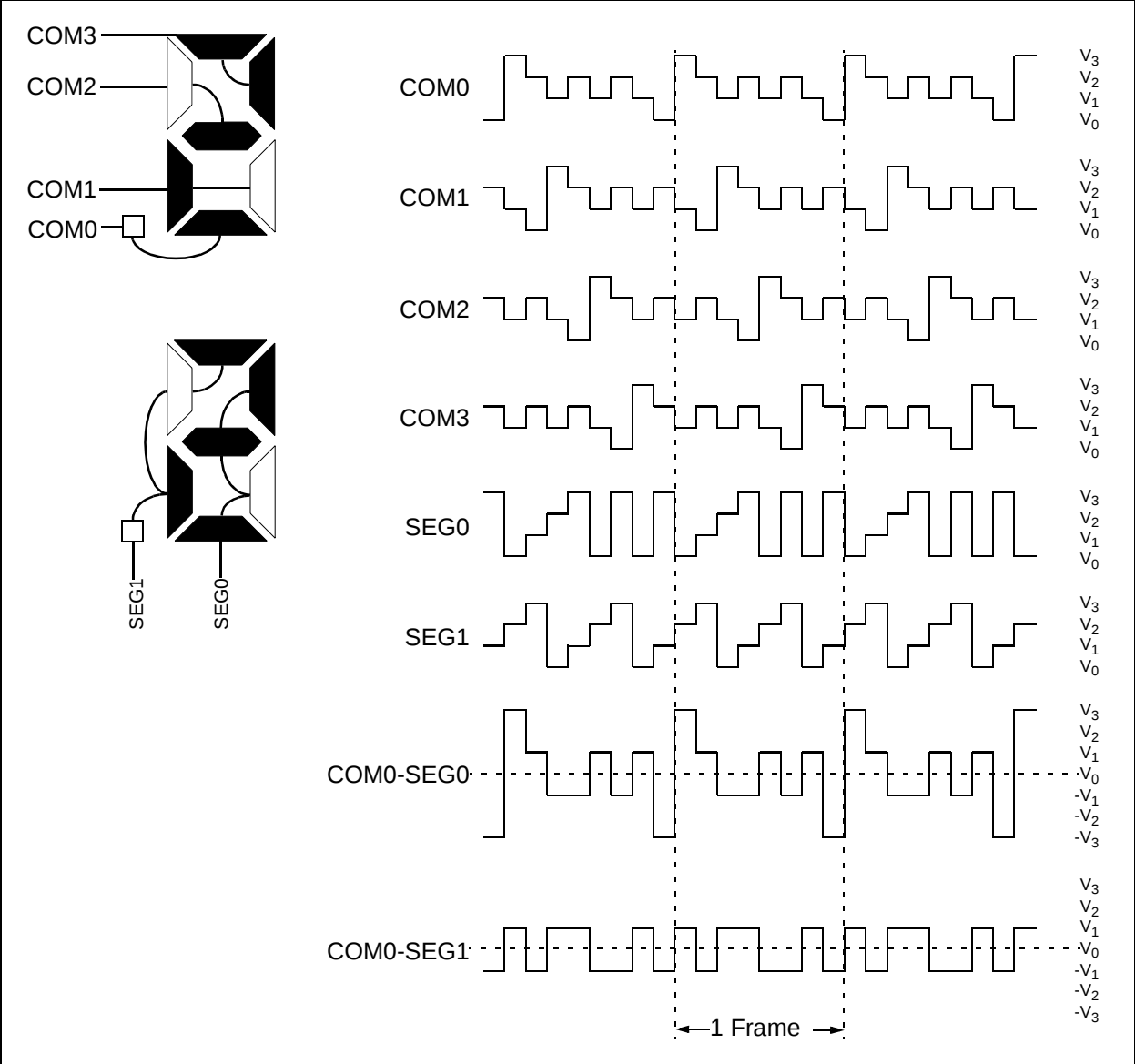


FIGURE 11-4: WAVEFORMS IN 1/3 MUX, 1/3 BIAS



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FIGURE 11-5: WAVEFORMS IN 1/4 MUX, 1/3 BIAS



APPENDIX A: REVISION HISTORY

Rev A Document (8/2001)

First revision of this document, as Data Sheet errata sheet.

Rev B Document (11/2001)

Added LCD silicon issue (issue 1, page 1) and clarifications for Memory (Special Function Registers) and LCD module (issues 2 and 3, pages 2 through 6).

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NOTES:

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- The PICmicro family meets the specifications contained in the Microchip Data Sheet.
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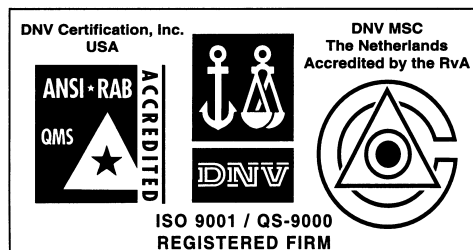
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