

## DISPLAY INITIALIZATION

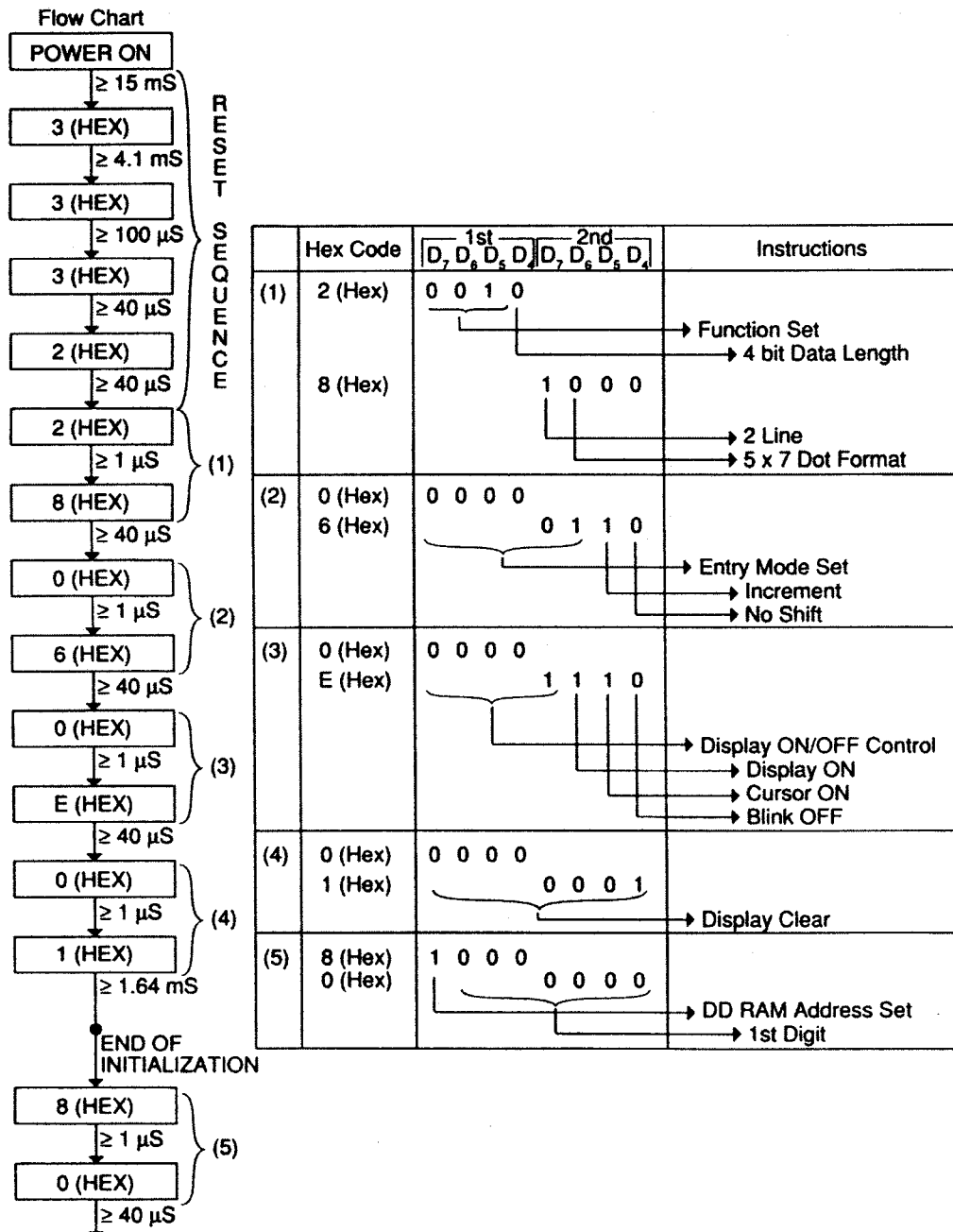
Each time the module is turned on or reset, an initialization procedure must be executed. The procedure consists of sending a sequence of hex codes from the microprocessor or parallel I/O port. The initialization sequence turns on the cursor, clears the display, and sets the module onto an auto-increment mode.

The initial hex code 30, 34, or 38 is sent two or more times to ensure the module enters the 8-bit or 4-bit data

mode. All the initialization sequences are performed under the condition of Register Select (RS) = 0 (low) and Read/Write (R/W) = 0 (low).

The 4-bit data bus microcontroller may operate the display module by sending the initialization sequence in 4-bit format. Since 4-bit operation requires the data to be sent twice over the higher 4-bit bus lines (D4-D7), memory requirements are doubled.

### B. EXAMPLE FOR THE MODULE WITH 5 x 7 Character Format Under 4-Bit Data Transfer



- Note:
- 1) Both RS and R/W terminals shall be "0" in this sequence.
  - 2) RS, R/W and Data are latched at the falling edge of the Enable signal,
  - 3) Enable signal has to be sent after every 4-bit Data transfer.