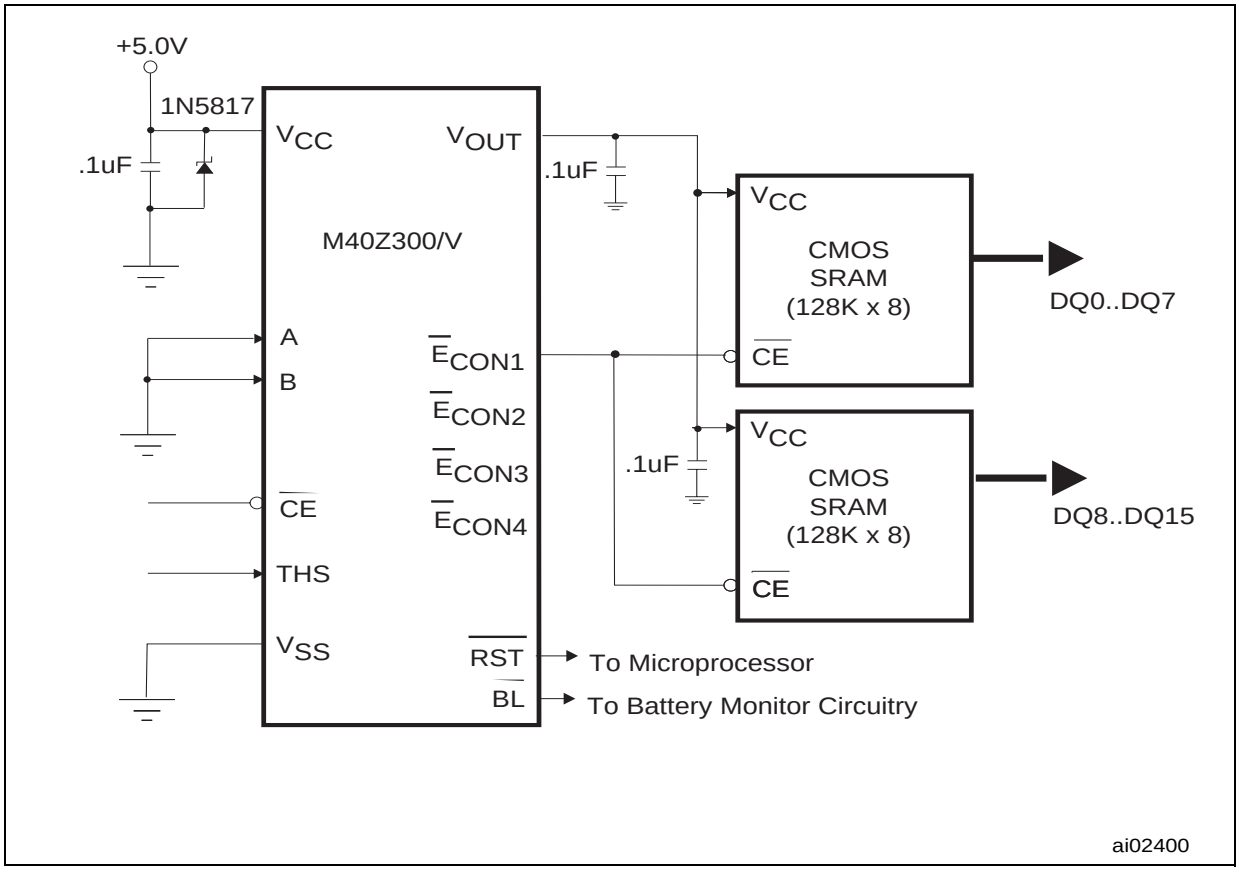
AN1021
APPLICATION NOTE

A Controller to Gain NVRAM Functionality from Two 128K x 16 Blocks of SRAM

The M40Z300, from STMicroelectronics, can be used to make SRAM devices behave like non-volatile RAM (NVRAM). When the supply voltage, V_{CC}, falls below the preset threshold level, the device locks out further writes to the RAM, switches to the battery supply, and sends a signal to the reset circuit. Figure 1 shows the arrangement for controlling two “128K x 16” devices.

Figure 1. Block diagram for 128 Kx16 battery backed SRAMs



As soon as V_{CC} is found to be below the threshold value, the M40Z300 performs four vital functions:

1. It switches the SRAM devices to being write protected
2. It switches the SRAM devices to being powered by the battery
3. It drives the reset line, $\overline{RST}$, low
4. It drives the $\overline{BL}$ line low if ever the internal battery voltage is found to be less than 2.5 volts.

If you have any questions or suggestions concerning the matters raised in this document, please send them to the following electronic mail address:

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Please remember to include your name, company, location, telephone number and fax number.