

Mask Set Errata for Mask 1M46S

Introduction

This report applies to mask 1M46S for these products:

- MC9S08LH64
- MC9S08LH36

SE185-LCDMF-STOP2: LCD is not functional in stop2 mode

Errata type: Silicon

Affected component: LCD

Description: The LCD module is not functional in stop2 mode.

Workaround: Use stop3 mode for low power LCD operation. If stop2 mode is needed, disable the LCD before entering stop2 mode, then initialize the LCD before exiting stop2 mode. This issue will be corrected in the next version of silicon.

SE184-FLVD-STOP3: False low voltage detect when exiting stop3

Errata type: Silicon

Affected component: SoC level behavior

Description: If the low voltage detect (LVD) is enabled (LVDE = 1) but not in stop mode (LVDSE = 0), on some devices the low voltage detect flag (LVDF) will occasionally be set when exiting stop3 mode. If the LVD interrupt is enabled (LVDIE = 1) the interrupt vector will be fetched. If the LVD reset is enabled, the part will reset, and the LVD bit in the System Reset Status (SRS) register will be set. The correct operation of the device is to wake and execute the code immediately after the STOP instruction.

If the LVD is not enabled (LVDE = 0) or if LVD is also enabled during stop mode (LVDSE = 1) then this issue will not occur. If the LVD is enabled during stop mode the stop3 current will increase.

Workaround:

A software level change to reliably eliminate the issue is to use only the LVD interrupt (LVDE = 1, LVDIE = 1, and LVDRE = 0). Inside the LVD interrupt service routine, a short state of health check can be made to verify the supply level before proceeding. In this routine, the LVDF should be cleared and then read to determine whether a true low voltage event is present. If the LVDF is set when it is read, then a true LVD condition exists and the MCU can be reset by forcing the execution of an illegal op-code.

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