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Handling FUSE_VDD in i.MX35 Applications

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This Engineering Bulletin describes the considerations for handling FUSE_VDD in i.MX35 applications.

1 Issue

Improper handling of the FUSE_VDD power supply in i.MX35 applications can cause permanent damage to the eFuses within the i.MX35 device. Damaged eFuses can, in turn, result in improper operation or an unbootable device. Strict adherence to the recommendations that apply to FUSE_VDD from the i.MX35 datasheet, *i.MX35 Applications Processors for Industrial and Consumer Products* (MCIMX35SR2CEC) or *i.MX35 Applications Processors for Automotive Products* (MCIMX35SR2AEC), is required to prevent damaging the eFuses.

2 Description

The FUSE_VDD power supply is used exclusively by the i.MX35 to program the eFuses. If the eFuses are not to be programmed by the customer or out in the field by the end user, FUSE_VDD should be connected to ground. A series resistor may be used to connect FUSE_VDD to ground allowing the eFuses to be programmed with minimal board modification.

When the eFuses are to be programmed, it is imperative that the logic power supplies of the i.MX35 be applied and stable before application of FUSE_VDD power, as detailed in the power up sequence in the Powering Up section of the i.MX35 datasheet. The application of FUSE_VDD at any time prior to the timing described in the datasheet, risks permanent damage to the eFuses within the array.

3 Recommendations

In applications where no eFuses are to be programmed, FUSE_VDD should be connected to ground.

In applications where eFuses may be programmed, FUSE_VDD should only be applied according to the i.MX35 power up sequence recommendation and only when eFuse programming occurs. At all other times, the best practice is to leave FUSE_VDD unpowered to prevent any unintended eFuse programming.

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