Mask Set Errata 1

68HC705X32 8-Bit Microcontroller Unit

INTRODUCTION

This errata provides MCAN reset issue information applicable to the following 68HC705X32 MCU mask set devices:

- D40J
- D59J
- G47V

MCU DEVICE MASK SET IDENTIFICATION

The mask set is identified by a four-character code consisting of a letter, two numerical digits, and a letter (e.g. D59J). Slight variations to the mask set identification code may result in an optional numerical digit preceding the standard four-character code (e.g. 0D59J).

MCU DEVICE DATE CODES

Device markings indicate the week of manufacture and the mask set used. The data is coded as four numerical digits where the first two digits indicate the year and the last two digits indicate the work week. The date code "9115" would indicate the 15th week of the year 1991.

MCU DEVICE PART NUMBER PREFIXES

Some MCU samples and devices are marked with an "SC","ZC" or "XC" prefix. An "SC" or "ZC" prefix denotes special/custom device. An "XC" prefix denotes device is tested but is not fully characterized or qualified over the full range of normal manufacturing process variations. After full characterization and qualification, devices will be marked with the "MC" prefix.

Whenever contacting a Motorola representative for assistance, please have the MCU device mask set and date code information available.

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MCAN RESET ISSUE

If the RR bit in CCNTRL is set during the transmission of a CAN message frame, there exists the possibility that the MCAN may permanently enter the reset state. This condition may only be recovered from by a MCU reset.

This may occur if, during a particular MCAN transmission bit time, the transmit error counter reaches 256 or more, and the CPU sets the RR bit at the start of the last MCAN clock period of that same bit time.

This issue may be avoided by not setting the RR bit during a MCAN message transmission, as described below.

Correct Software Handling:

Before setting the RR bit, check that a message is not being transmitted as follows:

read CSTAT

if TCS in CSTAT is clear:

— set AT in CCOM (use STA or STX)

— read CSTAT again

if TS in CSTAT is set:

— wait until TS is clear (read CSTAT again)

— set RR in CCNTRL

Additional mask set erratas can be found on the World Wide Web at http://Design-NET.com/csic/TECHSPRT/TechSprt.htm.