

## Mask Set Errata 1

# 68HC705RC16 8-Bit Microcontroller Unit

## INTRODUCTION

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This errata provides information concerning the  $\overline{\text{LPRST}}$  pin on this 68HC705RC16 MCU mask set device:

- 3G44P

## MCU DEVICE MASK SET IDENTIFICATION

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The mask set is identified by a four-character code consisting of a letter, two numerical digits, and a letter (for example, G44P). Slight variations to the mask set identification code may result in an optional numerical digit preceding the standard four-character code (for example, 3G44P).

## MCU DEVICE DATE CODES

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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

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Some MCU samples and devices are marked with an "SC" or "XC" prefix. An "SC" 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.*

Specifications and information herein are subject to change without notice.



## LPRST PIN

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If the  $\overline{\text{LPRST}}$  pin is asserted low, an internal low power reset signal is supposed to turn off the EPROM module's voltage sense amp reference cells, thereby placing the device in a low-power state. Instead, the internal low power reset signal does not turn off the reference cells. At 5.5 V with the  $\overline{\text{LPRST}}$  pin asserted low, instead of drawing less than the normal 30  $\mu\text{A}$  of Stop  $I_{\text{DD}}$  current, the 68HC705RC16 may consume up to 200  $\mu\text{A}$  of current in stop mode.


To illustrate a case where this would be a problem, suppose the batteries have drained to the point of triggering a low power reset on the MCU. Furthermore, suppose that the remote control has a capacitor that maintains RAM data while the user is replacing the dead batteries. Since the reference cells do not get turned off, a significant amount of current (hundreds of micro amps) is drawn by the MCU. This current drain can result in a rapid discharge of the back-up capacitor and an undesirable loss of RAM contents before the battery can be replaced.

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### NOTE

The ROM-based MC68HC05RC16 does not have sense amp reference cells like the EPROM-based MC68HC705RC16 device has. Therefore, no excessive power draw exists on this part.

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