Freescale Semiconductor
Addendum

MC9S08AC16 Data Sheet Errata

by: Microcontroller Solutions Group

This errata document describes corrections to the *MC9S08AC16 Data Sheet*, order number MC9S08AC16. For convenience, the addenda items are grouped by revision. Please check our website at http://www.freescale.com for the latest updates.

Contents

freescale™
semiconductor

1 Errata for Revision 6

Table 1. MC9S08AC16 Rev 6 Errata

Location	Description
Throughout	Remove references to stop1 mode since that mode isn't supported on this device
Table 1-1/Page 20	Add 42 SDIP device to the Consumer and Industrial "AC" Devices section with the following details: | Feature	MC9S08AC16	MC9S08AC8
---	---	---
Pin quantity	**42**	**42**
ADC channels	8	8
TPM1 channels	4	4
TPM2 channels	2	2
TPM3 channels	2	2
KBI pins	6	6
GPIO pins	32	32	
Figure 1-1/Page 21	Change legend to the following: □ = Not available on 32-, 42-, or 44-pin packages ○ = Not available on 32- or 42-pin packages △ = Not available on 32-pin packages ◇ = Not available on MC9S08AW*xx*A devices
Page 27	Add Figure # cross-reference to first sentence and add figure title under 42-Pin SDIP package.
Table 4-1/Page 42	In TPM3 overflow entry, row 3, change address from "0xFFC6:0xFFC" to "0xFFC6:0xFFC7"
Table 4-2/Page 44	In row 0x001E, change "KBEDG7" to "0" as KBIP7 does not exist on this device In row 0x001F, change "KBIPE7" to "0" as KBIP7 does not exist on this device
Page 81	Change second sentence from "...which include a total of 54 general-purpose I/O pins." to "...which include a total of 38 general-purpose I/O pins."
Figure 8-2/Page 132	Change legend to the following: □ = Not available on 32-, 42-, or 44-pin packages ○ = Not available on 32- or 42-pin packages △ = Not available on 32-pin packages ◇ = Not available on MC9S08AW*xx*A devices
Section 9.2/Page 159	First paragraph, remove second sentence. Second paragraph, remove second sentence. Third paragraph, change KBIP7 to KBIP6.
Section 9.3/Page 159	Change second buillet from "Four falling edge/low level or ..." to "Three falling edge/low level or.."
Figure 9-1/Page 160	Change legend to the following: □ = Not available on 32-, 42-, or 44-pin packages ○ = Not available on 32- or 42-pin packages △ = Not available on 32-pin packages ◇ = Not available on MC9S08AW*xx*A devices

Table 1. MC9S08AC16 Rev 6 Errata (continued)

Location	Description
Figure 10-1/Page 167	Change legend to the following: □ = Not available on 32-, 42-, or 44-pin packages ○ = Not available on 32- or 42-pin packages △ = Not available on 32-pin packages ◇ = Not available on MC9S08AW*xx*A devices
Figure 11-1/Page 198	Change legend to the following: □ = Not available on 32-, 42-, or 44-pin packages ○ = Not available on 32- or 42-pin packages △ = Not available on 32-pin packages ◇ = Not available on MC9S08AW*xx*A devices
Figure 12-1/Page 218	Change legend to the following: □ = Not available on 32-, 42-, or 44-pin packages ○ = Not available on 32- or 42-pin packages △ = Not available on 32-pin packages ◇ = Not available on MC9S08AW*xx*A devices
Figure 13-1/Page 234	Change legend to the following: □ = Not available on 32-, 42-, or 44-pin packages ○ = Not available on 32- or 42-pin packages △ = Not available on 32-pin packages ◇ = Not available on MC9S08AW*xx*A devices
Figure 14-1/Page 255	Change legend to the following: □ = Not available on 32-, 42-, or 44-pin packages ○ = Not available on 32- or 42-pin packages △ = Not available on 32-pin packages ◇ = Not available on MC9S08AW*xx*A devices

Table 1. MC9S08AC16 Rev 6 Errata (continued)

Location	Description
Page 288	Add the following DC injection current specifications to the end of the DC Characteristics table.

Num	C	Parameter	Symbol	Min	Typ	Max	Unit
20	D	DC injection current[1, 2, 3, 4] Single pin limit	$|I_{IC}|$				
		$\quad V_{IN} > V_{DD}$		0	—	2	mA
		$\quad V_{IN} < V_{SS}$		0	—	–0.2	mA
		Total MCU limit, includes sum of all stressed pins					
		$\quad V_{IN} > V_{DD}$		0	—	25	mA
		$\quad V_{IN} < V_{SS}$		0	—	–5	mA

[1] Power supply must maintain regulation within operating V_{DD} range during instantaneous and operating maximum current conditions. If positive injection current ($V_{IN} > V_{DD}$) is greater than I_{DD}, the injection current may flow out of V_{DD} and could result in external power supply going out of regulation. Ensure external V_{DD} load will shunt current greater than maximum injection current. This will be the greatest risk when the MCU is not consuming power. Examples are: if no system clock is present, or if clock rate is very low which (would reduce overall power consumption).

[2] All functional non-supply pins are internally clamped to V_{SS} and V_{DD}.

[3] Input must be current limited to the value specified. To determine the value of the required current-limiting resistor, calculate resistance values for positive and negative clamp voltages, then use the larger of the two values.

[4] IRQ does not have a clamp diode to V_{DD}. Do not drive IRQ above V_{DD}.

Location	Description
Table A-3/Page 305	Add the following thermal characterstics for the 42-pin SDIP package:

Rating		Symbol	Value	Unit
42-pin SDIP	1s	Θ_{JA}	58	°C/W
	2s2p		47	

Location	Description
Table A-6/Page 307	Move VOL (#2) specifications from Min column to Max column. Min columns should be "—".
Figure A-12/Page 321	Change KBIP7 to KBIP6
Table B-1/Page 327	Remove "42-pin SDIP" from Available Packages in Automotive Qualification row

2 Revision History

Table 2 provides a revision history for this document.

Table 2. MC9S08AC16AD Revision History

Rev. Number	Substantive Changes	Date of Release
0	Initial release	10/2008
1	Added errata for the following sections: • Throughout (remove stop1 instances) • Table 4-1/Page 42 • Table 4-2/Page 44 • Section 9.2/Page 159 • Section 9.3/Page 159 • Table A-6/Page 307 • Figure A-12/Page 321	2/2009

How to Reach Us:

Home Page:
www.freescale.com

Web Support:
http://www.freescale.com/support

USA/Europe or Locations Not Listed:
Freescale Semiconductor, Inc.
Technical Information Center, EL516
2100 East Elliot Road
Tempe, Arizona 85284
+1-800-521-6274 or +1-480-768-2130
www.freescale.com/support

Europe, Middle East, and Africa:
Freescale Halbleiter Deutschland GmbH
Technical Information Center
Schatzbogen 7
81829 Muenchen, Germany
+44 1296 380 456 (English)
+46 8 52200080 (English)
+49 89 92103 559 (German)
+33 1 69 35 48 48 (French)
www.freescale.com/support

Japan:
Freescale Semiconductor Japan Ltd.
Headquarters
ARCO Tower 15F
1-8-1, Shimo-Meguro, Meguro-ku,
Tokyo 153-0064
Japan
0120 191014 or +81 3 5437 9125
support.japan@freescale.com

Asia/Pacific:
Freescale Semiconductor Hong Kong Ltd.
Technical Information Center
2 Dai King Street
Tai Po Industrial Estate
Tai Po, N.T., Hong Kong
+800 2666 8080
support.asia@freescale.com

For Literature Requests Only:
Freescale Semiconductor Literature Distribution Center
P.O. Box 5405
Denver, Colorado 80217
1-800-441-2447 or 303-675-2140
Fax: 303-675-2150
LDCForFreescaleSemiconductor@hibbertgroup.com

Document Number: MC9S08AC16AD
Rev. 1
2/2009

freescale™
semiconductor