C8051F99x-C8051F98x

C8051F99X-C8051F98X DATA SHEET ADDENDUM

1. Introduction

The purpose of this document is to document a new part number in the C8051F99x/98x family and the associated features of that part number. Unless otherwise stated, all aspects of the C8051F99x/98x data sheet apply to the device described here.

2. Ordering Information

The C8051F980-C1-GM device has all the same features of the C8051F980-GM device with the addition of a unique identifier (UID) in XRAM. More information on the UID can be found in "5. Unique Identifier (UID) (C8051F980-C1-GM only)" on page 2.

Table 2.1. Product Selection Guide

Ordering Part Number	MIPS (Peak)	Flash Memory (kB)	RAM (bytes)	SmaRTClock Real Time Clock	SMBus/I^{2}C, UART, Enhanced SPI	Timers (16-bit)	Programmable Counter Array	Digital Port I/Os	Analog to Digital Converter Inputs	ADC with internal voltage reference and temperature sensor	Capacitive Touch Inputs	Programmable Current Reference	Analog Comparators	Lead-free (RoHS Compliant)	Unique Identifier (UID)	Package
C8051F980-C-GM	25	8	512	✓	✓	4	✓	16	9	12-bit	—	✓	1	✓	—	QFN-20
C8051F980-C1-GM	25	8	512	✓	✓	4	✓	16	9	12-bit	—	✓	1	✓	✓	QFN-20

3. Package Markings

The C8051F980-C1-GM and C8051F980-C-GM devices have identical package markings.

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4. Determining the Device Part Number at Run Time

In many applications, user software may need to determine the MCU part number at run time in order to determine the hardware capabilities. The part number can be determined by reading the value of the DEVICEID Special Function Register. The value of the DEVICEID register can be decoded as follows:

0xD3—C8051F980-C
0xE3—C8051F980-C1

SFR Definition 4.1. DEVICEID: Device Identification

Bit	7	6	5	4	3	2	1	0
Name	DEVICEID[7:0]							
Type	R/W							
Reset	0	0	0	0	0	0	0	0

SFR Page = 0xF; SFR Address = 0xE3

Bit	Name	Function
7:0	DEVICEID[7:0]	**Device Identification.** These bits contain a value that can be decoded to determine the device part number.

5. Unique Identifier (UID) (C8051F980-C1-GM only)

The C8051F980-C1-GM has a pre-programmed 32-bit (4-byte) Unique Identifier (UID). The UID resides in the last four bytes of XRAM. The UID can be read by firmware using MOVX instructions and through the debug port.

Firmware can overwrite the UID during normal operation, and the bytes in memory will be automatically reinitialized with the factory-programmed UID value after any device reset. Firmware using this area of memory should always initialize the memory to a known value, as any previous data stored at these locations will be overwritten and not retained through a reset.
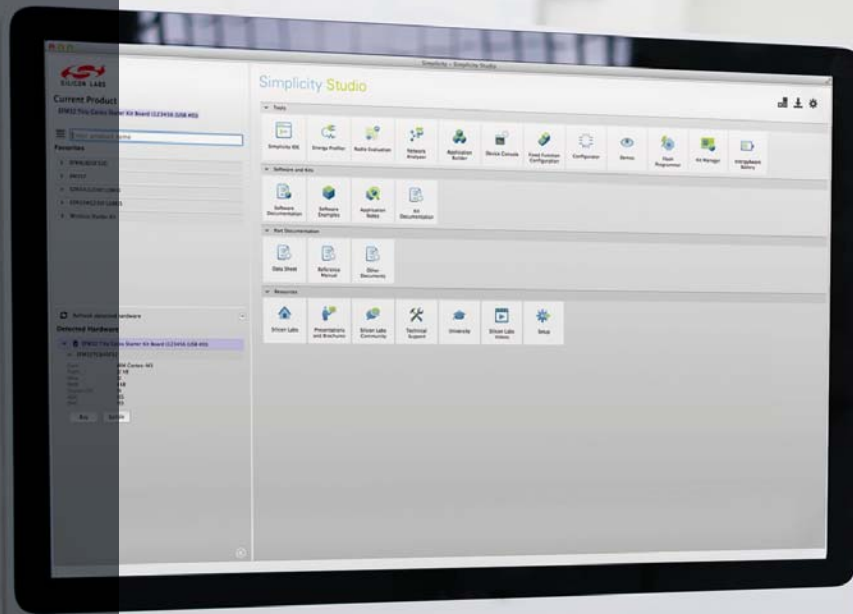
Table 5.1. UID Implementation Information

Device	External Memory (XRAM) Addresses		
C8051F980-C1-GM	**(MSB)**	0x00FF, 0x00FE, 0x00FD, 0x00FC	**(LSB)**

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DOCUMENT CHANGE LIST

Revision 1.0 to Revision 1.2

- Updated part numbers.

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