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瑞萨电子公司

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H8/300L Super Low Power 系列

常数的设定

要点

将 1 个字节的常数保存到数据存储区，便于初始化 RAM 区。

动作确认器件

H8/38024

目录

1. 参数

内容		保存位置	数据长度（字节）
输入	设定字节数	R0L	1
	常数	R0H	1
	起始地址	R1	2
输出	—	—	—

2. 内部寄存器变化和标志变化

R0		R1
×	×	×
R2		R3
•		•
R4		R5
•		•
R6		R7
•		•

I	U	H	U
•	•	•	•
N	Z	V	C
×	×	×	•

•：不变，×：不定，○：结果

3. 程序设计

程序存储器（字节）
10
数据存储器（字节）
0
堆栈（字节）
0
时钟周期数
3068
重入
可
再定位
可
中途中断
可

4. 注意事项

规格的时钟周期数是设定了 255 个字节常数时的值。

5. 说明

5.1 功能

(1) 参数的详细内容如下：

R0L：输入参数，设定常数的数据存储区的字节数。
R0H：输入参数，设定到数据存储区的 1 个字节常数。
R1 ：输入参数，设定常数的数据存储区的起始地址。

(2)软件 FILL 的执行例子如图 1-1 所示。

一旦如①设定输入参数，就如②将设定在 R0H 的常数 H’34 保存到数据存储区。

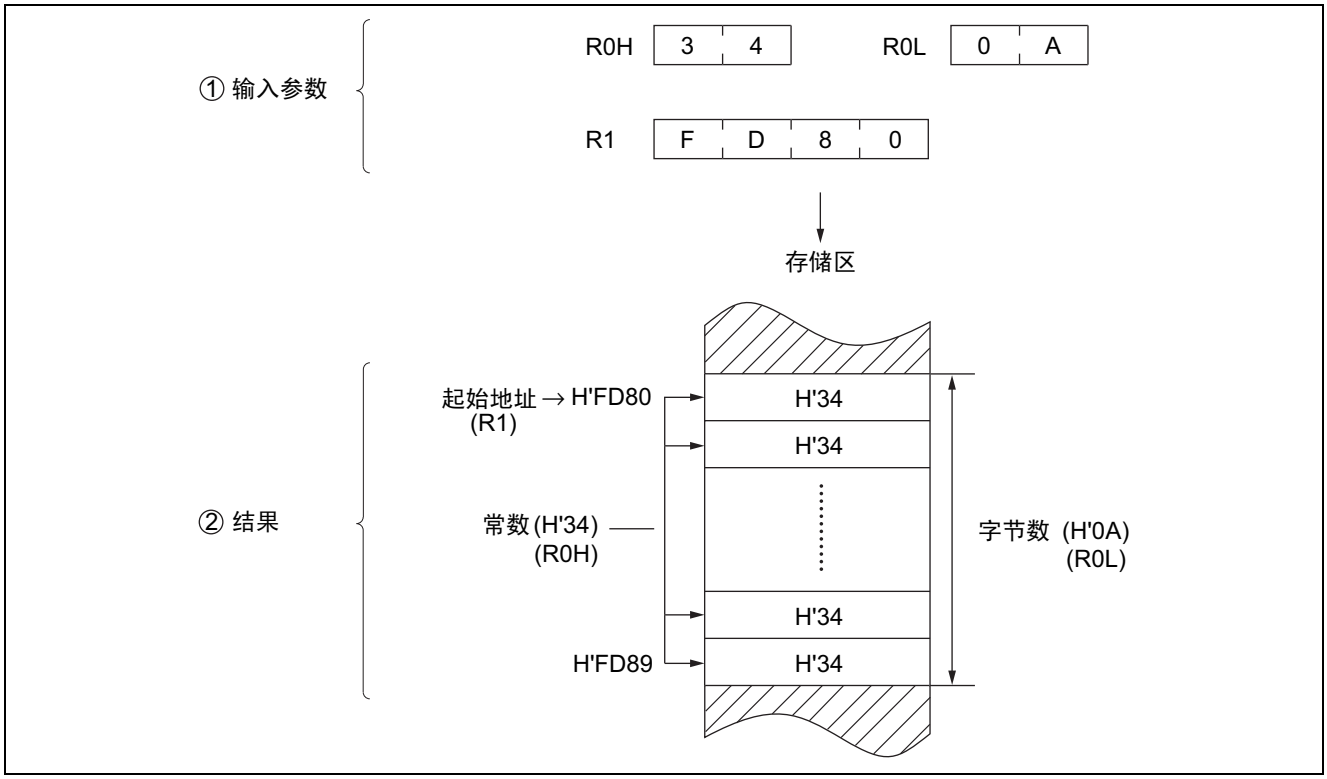


图 1-1 软件 FILL 的执行例子

5.2 使用时的注意

(1) 因为 R0L 是 1 个字节，所以必须设定在 H’01≤R0L≤H’FF 范围内的数据。
(2) R0L 不能置"0"，如果置"0"就无法结束软件 FILL。

5.3 数据存储器的说明

软件 FILL 不使用数据存储器。

5.4 使用例

设定常数、字节数和起始地址，子程序调用软件 FILL。

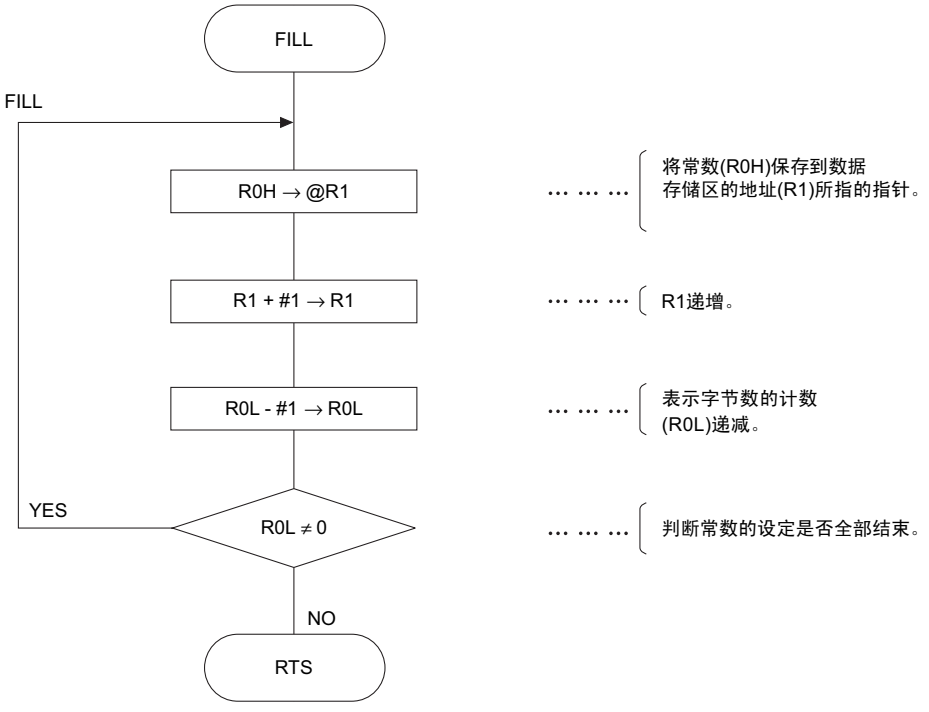
```
WORK1   . DATA. B   0          …… 确保用户程序设定传送字节数的数据存储区
                               (1 byte:内容H'00)。
WORK2   . DATA. B   0          …… 确保用户程序设定常数的数据存储区
                               (1 byte: 内容H'00)。
WORK3   . RES. B    10         …… 确保软件FILL设定的数据存储区
                               (10 byte)。
        MOV. B      @WORK1, R0L …… 将用户程序设定的传送字节数
                                   保存到输入参数。
        MOV. B      @WORK2, R0H …… 将用户程序设定的常数
                                   保存到输入参数。
        MOV. W      #WORK3, R1  …… 将用户程序确保的数据存储区的
                                   起始地址保存到输入参数。

        JSR         @FILL       …… …… …… 子程序调用软件FILL。
```

5.5 工作原理

(1) R1 用作表示设定常数的数据存储区地址的指针。
(2) 用 16 位绝对地址寻址方式，将设定在 R0H 的常数依次保存到数据存储区。
(3) R0L 用作表示设定常数的数据存储区字节数的计数器。每次将常数设定到数据存储区时 R0L 递减，如果 R0L 为"0"就结束。

6. 流程图



7. 程序清单

```
*** H8/300 ASSEMBLER       VER 1.0B ** 08/18/92 11:04:12
PROGRAM NAME =
1                                   ;************************************************************
2                                   ;*
3                                   ;*    00 – NAME        :FILL OF CONSTANT DATA (FILL)
4                                   ;*
5                                   ;************************************************************
6                                   ;*
7                                   ;*    ENTRY       :R0L      (Byte counter)
8                                   ;*                 R0H      (Constant data)
9                                   ;*                 R1       (Start address)
10                                  ;*
11                                  ;*    RETURN      :NOTHING
12                                  ;*
13                                  ;************************************************************
14                                  ;
15 FILL_cod C 0000                        .SECTION    FILL_code,CODE,ALIGN=2
16                                        .EXPORT     FILL
17                                  ;
18 FILL_cod C      00000000         FILL .EQU        $            ;Entry Point
19 FILL_cod C 0000 6890                    MOV.B    R0H.@R1      ;Store constant data
20 FILL_cod C 0002 0B01                    ADDS.W   #1,R1        ;Increment address pointer
21 FILL_cod C 0004 1A08                    DEC.B    R0L          ;Decrement byte counter
22 FILL_cod C 0006 46F8                    BNE      FILL         ;Branch if Z flag = 0
23                                  ;
24 FILL_cod C 0008 5470                    RTS
25                                  ;
26                                         .END
*****TOTAL ERRORS       0
*****TOTAL WARNINGS     0
```

修订记录

Rev.	发行日	修订内容	
		页	修订要点
1.00	2005.07.29	—	初版发行

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