

## **SUBFWB                      Subtract f from W with borrow**

Syntax:                      [ *label* ] SUBFWB    f [,d [,a]

Operands:                       $0 \leq f \leq 255$

$d \in [0,1]$

$a \in [0,1]$

Operation:                       $(W) - (f) - (\overline{C}) \rightarrow \text{dest}$

Status Affected:              N, OV, C, DC, Z

Encoding:	0101	01da	ffff	ffff
-----------	------	------	------	------

Description:                      Subtract register 'f' and carry flag (borrow) from W (2's complement method). If 'd' is 0, the result is stored in W. If 'd' is 1, the result is stored in register 'f' (default). If 'a' is 0, the Access Bank will be selected, overriding the BSR value. If 'a' is 1, then the bank will be selected as per the BSR value (default).

Words:                              1

Cycles:                             1

Q Cycle Activity:

Q1	Q2	Q3	Q4
Decode	Read register 'f'	Process Data	Write to destination

Example 1:                      SUBFWB    REG, 1, 0

Before Instruction

REG        =    3

W            =    2

C            =    1

After Instruction

REG        =    FF

W            =    2

C            =    0

Z            =    0

N            =    1    ; result is negative

Example 2:                      SUBFWB    REG, 0, 0

Before Instruction

REG = 2  
W = 5  
C = 1

After Instruction

REG = 2  
W = 3  
C = 1  
Z = 0  
N = 0 ; result is positive

Example 3: SUBFWB REG, 1, 0

Before Instruction

REG = 1  
W = 2  
C = 0

After Instruction

REG = 0  
W = 2  
C = 1  
Z = 1 ; result is zero  
N = 0

< Previous instruction: [SLEEP](#) | Instruction [index](#) | Next instruction: [SUBLW](#) >

