

## MULLW                      Multiply Literal with W

Syntax:                      [ *label* ]   MULLW    *k*

Operands:                       $0 \leq k \leq 255$

Operation:                       $(W) \times k \rightarrow \text{PRODH:PRODL}$

Status Affected:              None

Encoding:	0000	1101	kkkk	kkkk
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Description:                  An unsigned multiplication is carried out between the contents of *W* and the 8-bit literal '*k*'. The 16-bit result is placed in PRODH:PRODL register pair. PRODH contains the high byte. *W* is unchanged. None of the status flags are affected. Note that neither overflow nor carry is possible in this operation. A zero result is possible but not detected.

Words:                              1

Cycles:                             1

Q Cycle Activity:

Q1	Q2	Q3	Q4
Decode	Read literal ' <i>k</i> '	Process Data	Write registers PRODH: PRODL

Example:                      MULLW    0xC4

Before Instruction

W	=	0xE2
PRODH	=	?
PRODL	=	?

After Instruction

...

W	=	0xE2
PRODH	=	0xAD
PRODL	=	0x08

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