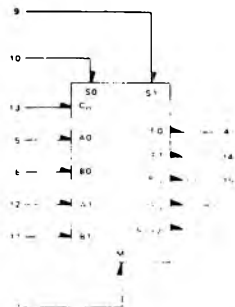


$V_{CC1}$  = Pin 1  
 $V_{CC2}$  = Pin 16  
 $V_{EE}$  = Pin 8



Function Select		POSITIVE LOGIC	
		Logic Function M = High	Arithmetic Operation M = Low
S1	S0	F	F
L	L	F = A ⊙ B	F = A plus B plus Carry
L	H	F = A ⊕ B	F = A plus B plus Carry
H	L	F = A ⊗ B	F = A plus B plus Carry
H	H	F = A - B	F = A times 2

$P_D$  = 575 mW typ/pkg (No Load)

$t_{pd}$  (typ): A1 to F = 7.5 ns  
 Cn to Cn-2 = 2.7 ns  
 A1 to PG = 6.5 ns  
 A1 to GG = 5.5 ns  
 A1 to Cn-2 = 7.0 ns

## 2-Bit Arithmetic Logic Unit/Function Generator

The MC10182 is a high-speed arithmetic logic unit capable of performing 4 logic operations and 4 arithmetic operations on two 2-bit words. Full internal carry is incorporated for arithmetic operation.

Arithmetic logic operations are selected by applying the appropriate binary word to the select inputs (S0 and S1) as indicated in the tables of arithmetic/logic functions. Group carry propagate (PG) and carry generate (GG) are provided for a second order look ahead carry using the MC10179. The internal carry is enabled by applying a low level voltage to the mode control input (M).

The MC10182 provides an alternate to the MC10181 four-bit ALU for applications not requiring the extended functions of the MC10181 or for applications requiring a 16-pin package. The MC10182 also differs from the MC10181 in that Word A and B are treated equally for addition and subtraction (A plus B, A minus B, B minus A). (Continued in next page.)

MC10182

ARITHMETIC FUNCTIONS

