

## DM74LS181 4-Bit Arithmetic Logic Unit

### General Description

The DM74LS181 is a 4-bit Arithmetic Logic Unit (ALU) which can perform all the possible 16 logic operations on two variables and a variety of arithmetic operations.

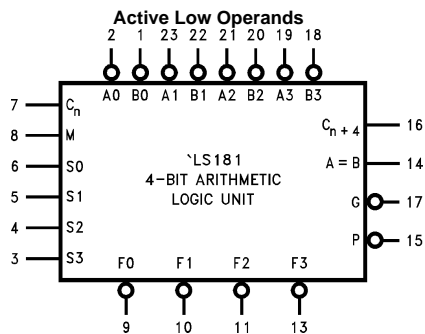
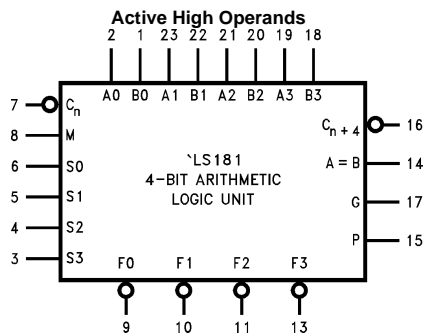
### Features

- Provides 16 arithmetic operations: add, subtract, compare, double, plus twelve other arithmetic operations
- Provides all 16 logic operations of two variables: exclusive-OR, compare, AND, NAND, OR, NOR, plus ten other logic operations
- Full lookahead for high speed arithmetic operation on long words

### Ordering Code:

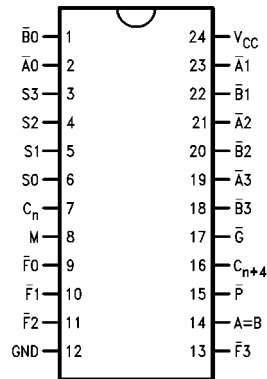
Order Number	Package Number	Package Description
DM74LS181N	N24A	24-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-010, 0.600 Wide

### Logic Symbols



V<sub>CC</sub> = Pin 24  
GND = Pin 12

### Connection Diagram



### Pin Descriptions

Pin Names	Description
A $\bar{0}$ –A $\bar{3}$	Operand Inputs (Active LOW)
B $\bar{0}$ –B $\bar{3}$	Operand Inputs (Active LOW)
S $\bar{0}$ –S $\bar{3}$	Function Select Inputs
M	Mode Control Input
C $\bar{n}$	Carry Input
F $\bar{0}$ –F $\bar{3}$	Function Outputs (Active LOW)
A = B	Comparator Output
G $\bar{}$	Carry Generate Output (Active LOW)
P $\bar{}$	Carry Propagate Output (Active LOW)
C $\bar{n+4}$	Carry Output