

8231A*

Arithmetic Processor

DISTINCTIVE CHARACTERISTICS

- 2, 3 and 4MHz operation
- Fixed point 16- and 32-bit operations
- Floating point 32-bit operations
- Add, Subtract, Multiply and Divide
- Trigonometric and inverse trigonometric functions
- Square roots, logarithms, exponentiation
- Float to fixed and fixed to float conversions
- DMA or programmed I/O data transfers

GENERAL DESCRIPTION

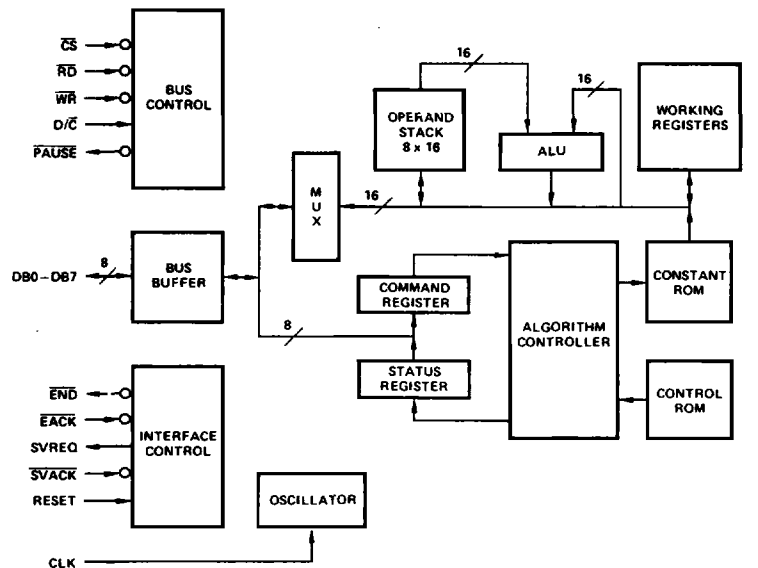
The 8231A Arithmetic Processing Unit (APU) is a monolithic MOS/LSI device that provides high performance fixed and floating point arithmetic and a variety of floating point trigonometric and mathematical operations. It may be used to enhance the computational capability of a wide variety of processor-oriented systems.

All transfers, including operand, result, status and command information, take place over an 8-bit bidirectional data bus. Operands are pushed onto an internal stack and a command is issued to perform operations on the data in

the stack. Results are then available to be retrieved from the stack, or additional commands may be entered.

Transfers to and from the APU may be handled by the associated processor using conventional programmed I/O, or may be handled by a direct memory access controller for improved performance. Upon completion of each command, the APU issues an end of execution signal that may be used as an interrupt by the CPU to help coordinate program execution.

BLOCK DIAGRAM

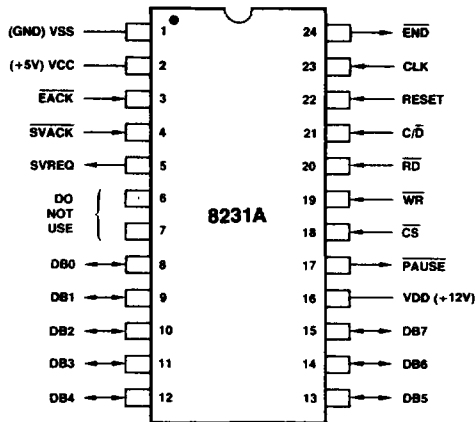


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*The 8231A is an AMD invented device more commonly referred to as the Am9511A. See the Am9511A datasheet in Section 2 for additional specifications.

CONNECTION DIAGRAM Top View

D-40



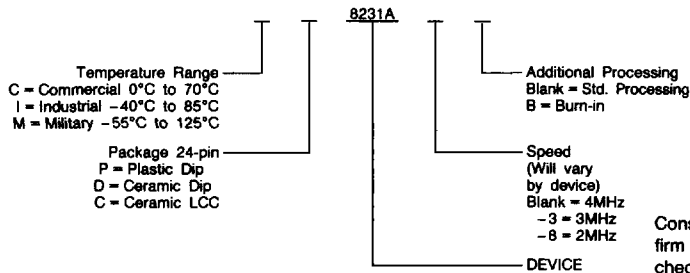
CD005460

Note: Pin 1 is marked for orientation

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ORDERING INFORMATION

AMD products are available in several packages and operating ranges. The order number is formed by a combination of the following: Device number, speed option (if applicable), package type, operating range and screening option (if desired).



Valid Combinations	
8231A	D
8231A-3	D, ID
8231A-3B	MD
8231A-8	D, ID
8231A-8B	MD

Valid Combinations
 Consult the local AMD sales office to confirm availability of specific valid combinations, check for newly released valid combinations and/or obtain additional data on AMD's standard military grade product.