

MN1020019 / 0219 / 0419 / 0819

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|---|--|-----------|---|
| Type | MN1020019 / 0219 / 0419 / 0819 | | |
| ROM (x8-bit / x16-bit) | External / 16K / 32K / 64K (External Memory Expandable) | | |
| RAM (x8-bit / x16-bit) | 3K / 1K / 2K / 3K (External Memory Expandable) | | |
| Minimum Instruction Execution Time | MN1020019 / 0219 / 0419 / 0819 : 100ns (at 4.5 to 5.5V, 20MHz) MN1020019 / 0219 / 0419 : 200ns (at 2.7 to 3.3V, 10MHz) | | |
| Interrupts | <ul style="list-style-type: none"> • RESET • Watchdog • Timer Counter 0 to 3 • External 0 to 3 • NMI • Serial ch 0, 1 Transmission • Serial ch 0, 1 Reception • A/D Conversion finish | | |
| Timer Counter | <p>Timer Counter 0, 1 : 8-bit x 1 (Timer Output, Event Count) Clock Source1/(1 to 256) of System Clock, External Clock Interrupt SourceUnderflow of Timer Counter 0, 1</p> <p>Timer Counter 2 : 8-bit x 1 (Timer Output, Event Count, UART Baud Rate Generator, Synchronous Serial Clock Generator, DRAM Refresh Timing Generator) Clock Source1/(1 to 256) of System Clock, External Clock Interrupt SourceUnderflow of Timer Counter 2</p> <p>Timer Counter 3 : 8-bit x 1 (Timer Output, Event Count, UART Baud Rate Generator, Synchronous Serial Clock Generator) Clock Source1/(1 to 256) of System Clock, External Clock Interrupt SourceUnderflow of Timer Counter 3</p> <p style="text-align: center;">(Connectable) Timer Counter 0, 1</p> | | |
| Serial Interface | <p>Serial 0 : 7,8-bit x 1 (Common use with UART, Transfer direction of MSB/LSB selectable) Clock Source1/8 of Timer Counter 2, 1/8 of Timer Counter 3, External Clock</p> <p>Serial 1 : 7,8-bit x 1 (Common use with UART, Transfer direction of MSB/LSB selectable) Clock Source1/8 of Timer Counter 2, 1/8 of Timer Counter 3, External Clock</p> <p>UART x 2 (Common use with Serial 0, 1)</p> | | |
| I/O Pins | I/O | 51 | • Common use : 51 (35 : by-bit, 16 : by-byte) (MN1020219 / 0419 / 0819), 21 (All individual bit control) (MN1020019) |
| | Input | 1 | • Common use : 1 |
| A/D Inputs | 8-bit x 4ch (with S/H) | | |
| Notes | DRAM Refresh Controller | | |
| Package | QFH064-P-1414B | | |

Electrical Characteristics

A/D, D/A Characteristics

| Parameter | Symbol | Condition | Limit | | | Unit |
|-------------------------------|--------|----------------|-------|-----|-----|------|
| | | | min | typ | max | |
| A/D Conversion Relative Error | | VDD=5V, VSS=0V | | | ±3 | LSB |
| A/D Conversion Time | | fosc=20MHz | 4.8 | | | µs |
| Analog Input Voltage | VIA | | VSS | | VDD | V |

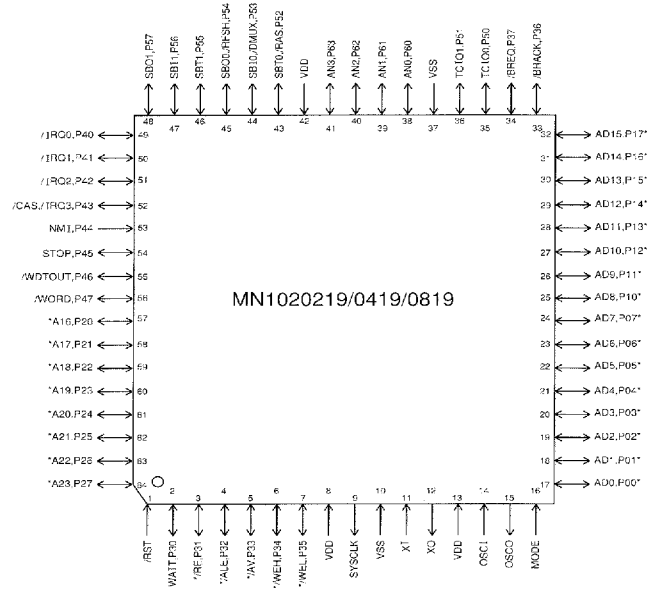
(Ta=25°C, VDD=5.0V, VSS=0V)

Support Tool

In-Circuit Emulator

PX-ICE102L00 + PX-PRB1020019

Pin Assignment



QFH064-P-1414B

* Use of these ports are disabled for MN1020019.