

MN102L360C

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|------------------------------------|--|----|--|
| Type | MN102L360C | | |
| ROM (x8-bit / x16-bit) | External | | |
| RAM (x8-bit / x16-bit) | 5 K | | |
| Package | LQFP128-P-1818C ^{*Lead-free} | | |
| Minimum Instruction Execution Time | 100 ns (at 4.5 V to 5.5 V, 20 MHz) | | |
| Interrupts | <ul style="list-style-type: none"> • RESET • Watchdog • Timer counter 0 to 5 • Fixed-length serial ch.0,1 transmission • Fixed-length serial ch.0,1 reception • Timer counter 6 to 7 • Timer counter 6 to 7 compare capture A • Timer counter 6 to 7 compare capture B • ATC transfer finish • External 0 to 7 • Serial ch.0,1 transmission • Serial ch.0,1 reception • NMI pin • A/D conversion finish | | |
| Timer Counter | <p>Timer counter 0: 8-bit × 1 (timer output, event count) Clock source 1/1, 1/128 of system clock frequency; 1/4 of low speed clock frequency; external clock Interrupt source timer counter 0 underflow</p> <p>Timer counter 1: 8-bit × 1 (timer output, even count, A/D conversion start) Clock source system clock; 1/4 of low speed clock frequency; external clock; timer counter 0 output Interrupt source timer counter 1 underflow</p> <p>Timer counter 2 to 3: 8-bit × 1 (timer output, event count, UART baud rate generation) Clock source system clock; external clock; timer counter 0 output; timer counter 1, 2 output Interrupt source timer counter 2, 3 underflow</p> <p>Timer counter 4,5: 8-bit × 1 (timer output, event count) Clock source 1/4 of low speed clock frequency; external clock; timer counter 0 output; timer counter 3, 4 output Interrupt source timer counter 4, 5 underflow</p> <p>Timer counter 6, 7: 16-bit × 1 (timer output, event count, input capture, output compare, PWM output, 2-phase encoder input) Clock source system clock; external clock; timer counter 4, 5 output Interrupt source coincidence with compare capture A or at capture; coincidence with compare capture B or at capture; underflow of timer counter 6, 7</p> <p>Connectable timer counter 0 to 5</p> | | |
| Serial Interface | <p>Serial 0: 7, 8-bit × 1 (common use with UART, transfer direction of MSB/LSB selectable) Clock source 1/16 of timer counter 2 frequency; 1/16 of timer counter 3 frequency; external clock; 1/2 of timer counter 2 frequency I²C mode (master transmission/reception is possible in the single master system.)</p> <p>Serial 1: 7, 8-bit × 1 (common use with UART, transfer direction of MSB/LSB selectable) Clock source 1/16 of timer counter 2 frequency; 1/16 of timer counter 3 frequency; external clock; 1/2 of timer counter 3 frequency I²C mode (master transmission/reception is possible in the single master system.)</p> <p>Fixed-length serial 0: 8-bit × 1 Clock source external clock Sending direction LSB</p> <p>Fixed-length serial 1: 8-bit × 1 Clock source external clock Sending direction LSB</p> | | |
| I/O Pins | I/O | 83 | • Common use: 8 (by 4 bits), 75 (by bit) |
| A/D Inputs | 8-bit × 8-ch. (with S/H) | | |

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|--------------------|--|
| D/A Outputs | 8-bit × 2-ch. |
| PWM | 16-bit × 2-ch. |
| Notes | Burst ROM interface support, ATC (between serial 0 ch and built-in RAM) support |

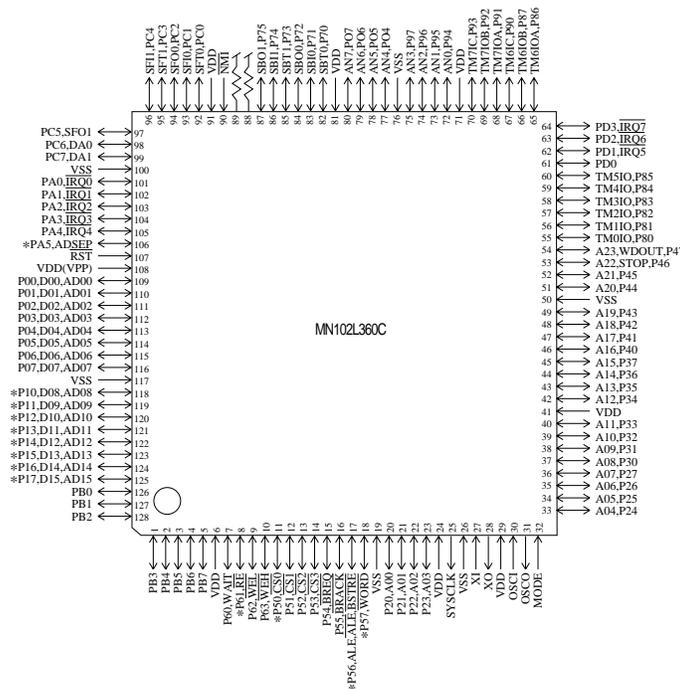
Electric Characteristics

Supply current

| Parameter | Symbol | Condition | Limit | | | Unit |
|--------------------------|--------|---|-------|-----|-----|------|
| | | | min | typ | max | |
| Operating supply current | IDDopr | VI = VDD or VSS, output open f = 20 MHz , VDD = 5.0 V | | | 75 | mA |
| Supply current at STOP | IDDS | Pin with pull-up resistor is open all other input pins and Hi-Z state input/output | | | 50 | μA |
| Supply current at HALT | IDDH | pins are simultaneously applied VDD or VSS level f = 20 MHz , VDD = 5.0 V, output open | | | 30 | mA |

(Ta = -40°C to +85°C , VDD = 5.0 V , VSS = 0 V)

Pin Assignment



LQFP128-P-1818C *Lead-free

* Port unusable

See the next page for support tool.

Support Tool

| | | |
|----------------------------|---|------------------------------------|
| In-circuit Emulator | PX-ICE102L00 + PX-PRB102L36-LQFP128-P-1818C | |
| EPROM Built-in Type | Type | MN102LP36Z |
| | ROM (× 8-bit / × 16-bit) | 128 K |
| | RAM (× 8-bit / × 16-bit) | 10 K |
| | Minimum instruction execution time | 100 ns (at 4.5 V to 5.5 V, 20 MHz) |
| | Package | LQFP128-P-1818C *Lead-free |

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