

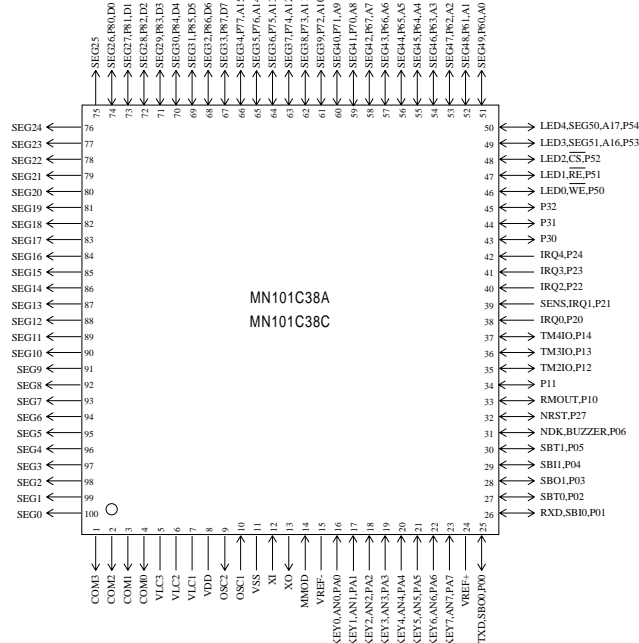
Type		MN101C38A		MN101C38C	
ROM (x8-bit)		32 K		48 K	
External memory can be expanded					
RAM (x8-bit)		1.5 K		2 K	
External memory can be expanded					
Package		QFP100-P-1818B *Lead-free, LQFP100-P-1414 *Lead-free			
Minimum Instruction Execution Time		0.1 μs (at 4.5 V to 5.5 V, 20 MHz) 0.25 μs (at 2.7 V to 5.5 V, 8 MHz) 125 μs (at 2.0 V to 5.5 V, 32 kHz)* * The lower limit for operation guarantee for EPROM built-in type is 2.3 V.			
Interrupts		• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 • External 4 • Timer 2 • Timer 3 • Timer 4 • Timer 5 • Time base • Serial 0 • Serial 1 • A/D conversion finish			
Timer Counter		Timer counter 2 : 8-bit × 1 (square-wave/8-bit PWM output, event count, synchronous output event) Clock source 1/1, 1/4 of system clock frequency; 1/1 of XI oscillation clock frequency; external clock input Interrupt source coincidence with compare register 2 Timer counter 3 : 8-bit × 1 (square-wave output, event count, generation of remote control carrier, serial 0 baud rate timer) Clock source 1/4, 1/16 of system clock frequency; 1/1 of OSC oscillation clock frequency; external clock input Interrupt source coincidence with compare register 3 Timer counter 2, 3 can be cascade-connected. Timer counter 4 : 16-bit × 1 (square-wave/16-bit PWM output, event count, synchronous output event, input capture) Clock source 1/4, 1/16 of system clock frequency; 1/1 of OSC oscillation clock frequency; external clock input Interrupt source coincidence with compare register 4 Time base timer (one-minute count setting, independently operable 8-bit timer counter 5) Clock source 1/4 of system clock frequency; 1/1, 1/8192 of OSC oscillation clock frequency; 1/1, 1/8192 of XI oscillation clock frequency Interrupt source coincidence with compare register 5; 1/8192 prescaler overflow Watchdog timer Interrupt source 1/65536, 1/262144, 1/1048576 of system clock frequency (mask option)			
Serial Interface		Serial 0 : synchronous type/simple UART (half-duplex) × 1 Clock source 1/2, 1/4, 1/16 of system clock frequency; 1/2 of timer counter 3 frequency Serial 1 : synchronous type × 1 Clock source 1/2, 1/8, 1/64 of system clock frequency; 1/2 of timer counter 3 frequency			
I/O Pins	I/O	44	• Common use • Specified pull-up resistor available • Input/output selectable (bit unit) • Specified pull-down resistor partially selectable		
	Input	13	• Common use • Specified pull-up resistor available • Specified pull-down resistor partially selectable		
A/D Inputs		10-bit × 8-ch. (with S/H)			
LCD		52 segments × 4 commons (Static, 1/2, 1/3, or 1/4 duty)			
Special Ports		Buzzer output, remote control carrier signal output, high-current drive port			

Electrical Characteristics

Supply current

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 8 MHz, VDD = 5 V		10	25	mA
	IDD2	fx = 32 kHz, VDD = 3 V		30	100	μA
Supply current at HALT	IDD3	fx = 32 kHz, VDD = 3 V, Ta = 25°C			8	μA
	IDD4	fx = 32 kHz, VDD = 3 V, Ta = -40°C to +85°C			24	μA
Supply current at STOP	IDD5	VDD = 5 V, Ta = 25°C			1	μA
		VDD = 5 V, Ta = -40°C to +85°C			20	μA

Pin Assignment



QFP100-P-1818B *Lead-free

LQFP100-P-1414 *Lead-free

Support Tool

In-circuit Emulator

PX-ICE101C / D + PX-PRB101C38-QFP100-P-1818B

PX-ICE101C / D + PX-PRB101C38-LQFP100-P-1414

EPROM Built-in Type

Type MN101CP38C

ROM (× 8-bit) 48 K

RAM (× 8-bit) 2 K

Minimum instruction execution time 0.1 μs (at 4.5 V to 5.5 V, 20 MHz)

0.25 μs (at 2.7 V to 5.5 V, 8 MHz)

125 μs (at 2.3 V to 5.5 V, 32 kHz)

Package QFP100-P-1818B *Lead-free, LQFP100-P-1414 *Lead-free

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