❑ MN101C539

Type			MN101C539 (under development)
ROM (×8-bit)			24 K (External memory can not be expanded)
RAM (×8-bit)			0.5 K (External memory can not be expanded)
Package			TQFP048-P-0707B
Minimum Instruction Execution Time			High speed mode: 0.125 µs (at 4.5 V to 5.5 V, 16 MHz) 0.238 µs (at 2.7 V to 5.5 V, 8.39 MHz) 1.00 µs (at 2.0 V to 5.5 V, 4 MHz)* Low speed mode: 61.04 µs (at 2.0 V to 5.5 V, 32.768 kHz)* * The lower limit for operation guarantee for EPROM built-in type is 2.7 V.
Interrupts			• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 • Timer 2 • Timer 3 • Timer 6 • Time Base • Serial 0 (2 systems) • A/D conversion finish • Timer 7 (2 systems)
Timer Counter			Timer counter 2 : 8-bit × 1 (square-wave/8-bit PWM output, event count, synchronous output event, pulse width measurement) Clock source ····· 1/2, 1/4 of system clock frequency; 1/1, 1/4, 1/16, 1/32, 1/64 of OSC oscillation 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) Clock source ····· 1/2, 1/8 of system clock frequency; 1/1, 1/4, 1/16, 1/64, 1/128 of OSC oscillation clock frequency; 1/1 of XI oscillation clock frequency; external clock input Interrupt source ····· coincidence with compare register 3 Timer counter 2, 3 can be cascade-connected. Timer counter 6 : 8-bit freerun timer Clock source ····· 1/1 of system clock frequency; 1/1, 1/4096, 1/8192 of OSC oscillation clock frequency; 1/1, 1/4096, 1/8192 of XI oscillation clock frequency Interrupt source ····· coincidence with compare register 6 Timer counter 7 : 16-bit × 1 (square-wave/16-bit PWM output, cycle / duty continuous variable, event count, synchronous output evevt, pulse width measurement, input capture) Clock source ····· 1/1, 1/2, 1/4, 1/16 of system clock frequency; 1/1, 1/2, 1/4, 1/16 of OSC oscillation clock frequency; 1/1, 1/2, 1/4, 1/16 of external clock input frequency Interrupt source ····· coincidence with compare register 7 (2 lines) Time base timer (one-minute count setting) Clock source ····· 1/1 of OSC oscillation clock frequency; 1/1 of XI oscillation clock frequency Interrupt source ····· 1/128, 1/256, 1/512, 1/1024, 1/8192, 1/32768 of clock source frequency Watchdog timer Interrupt source ····· 1/65536, 1/262144, 1/1048576 of system clock frequency
Serial Interface			Serial 0 : synchronous type/UART (full-duplex) × 1 Clock source ····· 1/2, 1/4 of system clock frequency; pulse output of timer counter 2, 3; 1/2, 1/4, 1/16, 1/64 of OSC oscillation clock frequency
I/O Pins	**I/O**	36	• Common use • Specified pull-up resistor available • Input/output selectable (bit unit)
	Input	4	• Common use • Specified pull-up resistor available

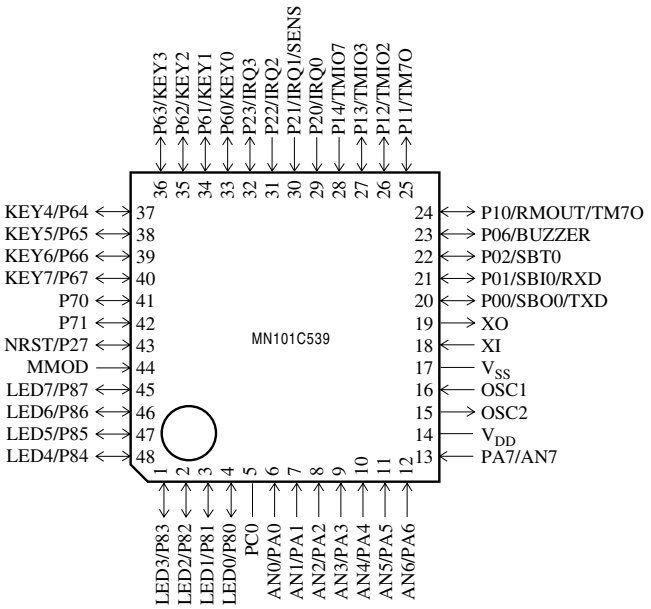
A/D Inputs	10-bit × 8-ch. (with S/H)
Special Ports	Buzzer output, remote control carrier signal output, high-current drive port

Electrical Characteristics

Supply current

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 16 MHz, VDD = 5 V		30	70	mA
	IDD2	fosc = 8.39 MHz, VDD = 5 V		15	30	mA
	IDD3	fx = 32.768 kHz, VDD = 3 V		40	120	µA
Supply current at HALT	IDD4	fx = 32.768 kHz, VDD = 3 V, Ta = 25°C		5	11	µA
	IDD5	fx = 32.768 kHz, VDD = 3 V, Ta = −40°C to +85°C			30	µA
Supply current at STOP	IDD6	VDD = 5 V, Ta = 25°C		0	3	µA
		VDD = 5 V, Ta = −40°C to +85°C			60	µA

Pin Assignment



TQFP048-P-0707B

Support Tool

In-circuit Emulator	PX-ICE101C/D+PRB-MBB101C53-M (under development)	
EPROM Built-in Type	Type	MN101CP539 (under development)
	ROM (× 8-bit)	24 K
	RAM (× 8-bit)	0.5 K
	Minimum instruction execution time	High speed mode: 0.125 µs (at 4.5 V to 5.5 V, 16 MHz) 0.238 µs (at 2.7 V to 5.5 V, 8.39 MHz) 1.00 µs (at 2.7 V to 5.5 V, 4 MHz) Low speed mode: 61.04 µs (at 2.7 V to 5.5 V, 32.768 kHz)
	Package	TQFP048-P-0707B