

# MN101C457

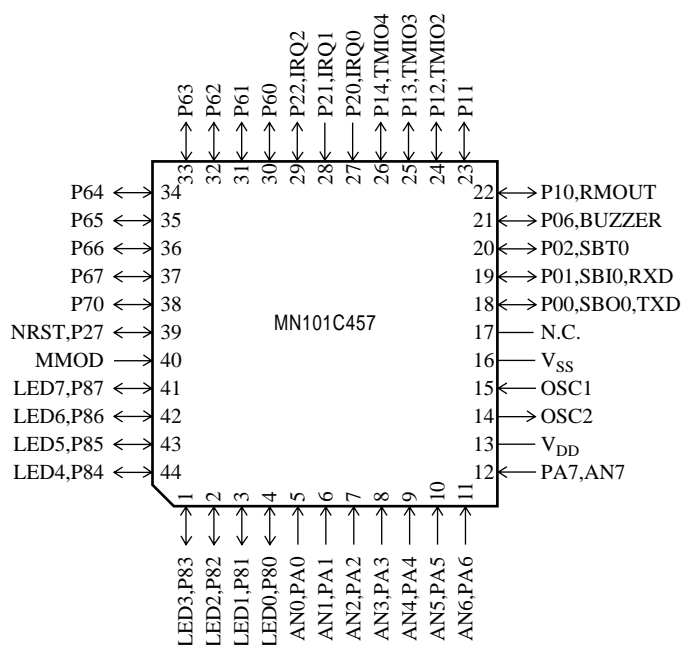
Type		MN101C457			
ROM (×8-bit)		16 K			
RAM (×8-bit)		0.5 K			
Package		QFP044-P-1010E *Lead-free			
Minimum Instruction Execution Time		0.10 μs (at 4.5 V to 5.5 V, 20 MHz)			
		0.238 μs (at 2.7 V to 5.5 V, 8.39 MHz)			
		0.477 μs (at 2.0 V to 5.5 V, 4.19 MHz)*			
		* The lower limit for operation guarantee for EPROM built-in type is 2.7 V.			
Interrupts		• RESET • Watchdog • External 0 • External 1 • External 2 • Timer 2 • Timer 3 • Timer 4 • Timer 5 • Time base • Serial 0 • 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; 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 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 (ROM option)			
		Serial Interface			
		Serial 0 : synchronous type/simple UART (half-duplex) × 1 Clock source ..... 1/2, 1/4, 1/16 of system clock frequency; pulse output of timer counter 3			
		I/O Pins	I/O	26	• Common use: 16 • Specified pull-up resistor available • Input/output selectable (bit unit): 26
			Input	11	• 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 = 20 MHz, VDD = 5 V		15	40	mA
	IDD2	fosc = 8.39 MHz, VDD = 5 V		6	18	mA
Supply current at STOP	IDD3	VDD = 5 V, Ta = 25°C			2	μA
	IDD4	VDD = 5 V, Ta = -40°C to +85°C			20	μA

## Pin Assignment



QFP044-P-1010E \*Lead-free

## Support Tool

In-circuit Emulator	PX-ICE101C/D+PX-PRB101C42-QFP044-P-1010	
EPROM Built-in Type	Type	MN101CP457BF
	ROM (× 8-bit)	16 K
	RAM (× 8-bit)	0.5 K
	Minimum instruction execution time	0.10 μs (at 4.5 V to 5.5 V, 20 MHz) 0.238 μs (at 2.7 V to 5.5 V, 8.39 MHz)
	Package	QFP044-P-1010E *Lead-free

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