

# □ MN101C425 , MN101C427

<b>Type</b>	MN101C425		MN101C427	
<b>ROM (×8-bit)</b>	8 K		16 K	
<b>RAM (×8-bit)</b>	0.25 K		0.5 K	
<b>Package (Conventional Package)</b>	SDIP042-P-0600C *Lead-free, TQFP048-P-0707B *Lead-free, QFP044-P-1010F *Lead-free (SDIP042-P-0600)			
<b>Minimum Instruction Execution Time</b>	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)* 125 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.			
<b>Interrupts</b>	<ul style="list-style-type: none"> <li>• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 (only 48-pin package)</li> <li>• Timer 2 • Timer 3 • Timer 4 • Timer 5 • Time base • Serial 0 • A/D conversion finish</li> </ul>			
<b>Timer Counter</b>	<p>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 (only 48-pin package); external clock input            Interrupt source ..... coincidence with compare register 2</p> <p>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</p> <p>Timer counter 2, 3 can be cascade-connected.</p> <p>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</p> <p>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 (only 48-pin package)            Interrupt source ..... coincidence with compare register 5; 1/8192 prescaler overflow</p> <p>Watchdog timer            Interrupt source ..... 1/65536, 1/262144, 1/1048576 of system clock frequency (ROM option)</p>			
<b>Serial Interface</b>	Serial 0 : synchronous type/simple UART (half-duplex) × 1 Clock source ..... 1/2, 1/4, 1/16 of system clock frequency; output of timer counter 3			
<b>I/O Pins</b>	<b>I/O</b>	27	<ul style="list-style-type: none"> <li>• Common use: 16 • Specified pull-up resistor available</li> <li>• Input/output selectable (bit unit): 26 (for 44-pin), 25 (for 42-pin)</li> </ul>	
	<b>Input</b>	12	<ul style="list-style-type: none"> <li>• Common use • Specified pull-up resistor available</li> </ul>	
<b>A/D Inputs</b>	10-bit × 8-ch. (with S/H)			
<b>Special Ports</b>	Buzzer output, remote control carrier signal output, high-current drive port			

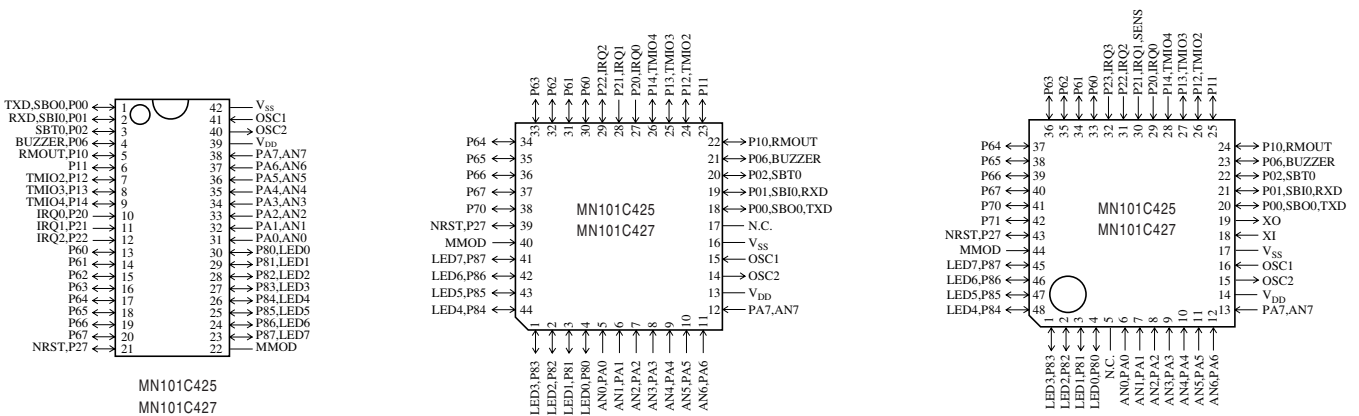
**Electrical Characteristics**

**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
	IDD3	fx = 32.768 kHz, VDD = 3 V			100	μA
Supply current at HALT	IDD4	fx = 32.768 kHz, VDD = 3 V, Ta = 25°C			8	μA
	IDD5	fx = 32.768 kHz, VDD = 3 V, Ta = -40°C to +85°C			18	μA
Supply current at STOP	IDD6	VDD = 5 V, Ta = 25°C			2	μA
		VDD = 5 V, Ta = -40°C to +85°C			20	μA

**Pin Assignment**

( ) : Conventional Package



SDIP042-P-0600C \*Lead-free  
(SDIP042-P-0600)

QFP044-P-1010F \*Lead-free

TQFP048-P-0707B \*Lead-free

**Support Tool**

**In-circuit Emulator**

PX-ICE101C/D+PX-PRB101C42-QFP044-P-1010  
 PX-ICE101C/D+PX-PRB101C42-TQFP048-P-0707B  
 PX-ICE101C/D+PX-PRB101C42-SDIP042-P-0600

**EPROM Built-in Type**

Type	MN101CP427DP, MN101CP427BF, MN101CP427HT
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	[All lead-free] SDIP042-P-0600C, TQFP048-P-0707B, QFP044-P-1010F (Conventional Package) (SDIP042-P-0600)