

# □ MN150414 / 0814 / 1614

<b>Type</b>	<b>MN150414 / 0814 / 1614</b>		
<b>ROM (x8-bit)</b>	4K / 8K / 8K (Table ROM 8K)		
<b>RAM (x4-bit)</b>	256 / 320 / 320		
<b>Number of Instructions</b>	103		
<b>Minimum Instruction Execution Time</b>	At 1/8 frequency dividing 2.0μs (at 1.8 to 3.6V, 4MHz) At 1/16 frequency dividing 4.0μs (at 1.8 to 3.6V, 4MHz) At 1/32 frequency dividing 8.0μs (at 1.8 to 3.6V, 4MHz)		
<b>Interrupts</b>	• RESET • External (Key Interrupt is available) • Timer • Serial		
<b>Timer Counter</b>	<b>Timer Counter 1 : 8-bit x 1</b> Clock Source .....1/2, 1/8, 1/32, 1/128 of System Clock, Remote Control Carrier Output Interrupt Source .....Overflow of Timer Counter 1  <b>Timer Counter 2 : 8-bit x 1</b> Clock Source .....1/1, 1/16, 1/32, 1/64 of OSC Oscillation Clock .....1/1, 1/16, 1/32, 1/64 of TCI2 Pin Input, Remote Control Carrier Output Interrupt Source .....Overflow of Timer Counter 2  <b>Watchdog Timer</b> <input type="checkbox"/> Connectable Timer Counter 1 + Timer Counter 2		
<b>Serial Interface</b>	<b>Serial : 8-bit x 1 (Synchronous Type)</b> Clock Source .....System Clock, $\overline{\text{SBT}}$ Pin Input		
<b>I/O Pins</b>	<b>I/O</b>	<b>12 (13)</b>	• Common use : 1 • Specified pull-up Resistor available : 13 (Software Programmable) (WDT Output by $\overline{\text{RST}}$ Pin Output)
	<b>Input</b>	<b>9</b>	• Common use : 5 • Specified pull-up Resistor available : 9 (Software Programmable)
	<b>Output</b>	<b>1</b>	• Common use : 1
<b>Special Ports</b>	Remote Control Transmission		
<b>Notes</b>	Carrier Generator Circuit for Remote Controller built-in and Auto Reset Circuit built-in		
<b>Package</b>	SOP028-P-0375		

## Electrical Characteristics

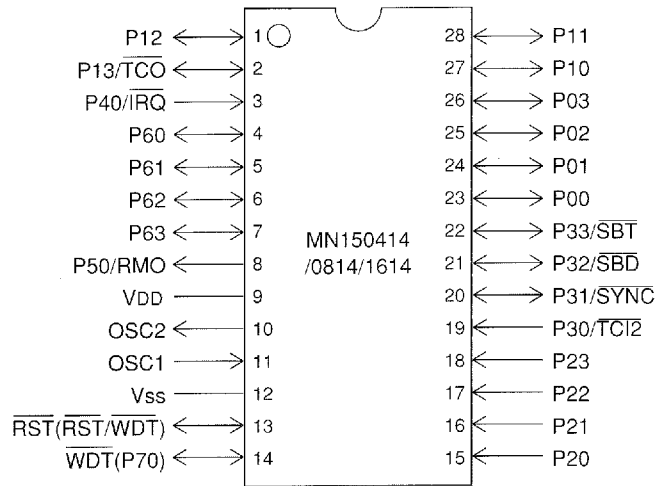
### Supply Current

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current	IDD1	fosc=4MHz, 1/8 dividing		1.0	3.0	mA
Supply Current at STOP	IDD3	Auto Reset Circuit built-in		1.0	5	μA
Supply Current at HALT	IDD2	fosc=4MHz, 1/8 dividing		0.6	1.2	mA

(Ta= -20 to +85°C, VDD=3V, VSS=0V)

## Support Tool

<b>In-Circuit Emulator</b>	PX-ICE1500 + PX-PRB150414 / 0814 / 1614
<b>EPROM built-in Type</b>	Use <b>MN15P1614</b> [ES (Engineering Sample) available] in SOP028-P-0375 package.
<b>Pin Assignment</b>	



SOP028-P-0375