

MN151638

Type		MN151638	
ROM (x8-bit)		16K	
RAM (x4-bit)		512	
Number of Instructions		103	
Minimum Instruction Execution Time		2.0μs at 1/4 frequency dividing (at 1.8 to 5.5V, 2MHz) 0.94μs at 1/4 frequency dividing (at 2.7 to 5.5V, 4.24MHz) 1.818μs at 1/8 frequency dividing (at 1.8 to 5.5V, 4.4MHz)	
Interrupts		• RESET • External (Key Interrupt is available) • Timer • Serial	
Timer Counter		Timer Counter 1 : 8-bit x 1 (Event Count) Clock Source 1/2, 1/8, 1/32, 1/128 of System Clock, XI Oscillation Clock Remote Control Carrier Output 1/1, 1/4, 1/16, 1/64 of Time Base 8Hz Dividing Signal Interrupt Source . Overflow of Timer Counter 1 Time Counter 2 : 8-bit x 1 Clock Source 1/1, 1/16, 1/32, 1/64 of OSC Oscillation Clock, 1/1, 1/16, 1/32, 1/64 of XI Oscillation Clock, 1/1, 1/16, 1/32, 1/64 of TC12 Pin Input Interrupt Source Overflow of Timer Counter 2 Possible cascade connection with timer counter 1 Time Base Counter Clock Source 1/8 of XI Oscillation Clock Watchdog Timer	
Serial Interface		Serial : 8-bit x 1 (Synchronous Type) Clock Source . SBT Pin Input, System Clock	
I/O Pins	I/O	16	• Common use . 10 • Specified pull-up Resistor available 16 (Software Programmable) • SEG output selectable 8 (Software Programmable)
	Input	9	• Common use 5 • Specified pull-up Resistor available 9 (Software Programmable)
	Output	1	• Common use 1
LCD		33 Segments • 2 Common • 1/2 Duty, 33 Segments • 3 Common • 1/3 Duty, 32 Segments • 4 Common • 1/4 Duty	
Special Ports		Buzzer Output, Remote Control Transmission	
Notes		Built-in Carrier Generator Circuit for Remote Controller	
Package		LQFP064-P-1414	

Electrical Characteristics

Supply Current

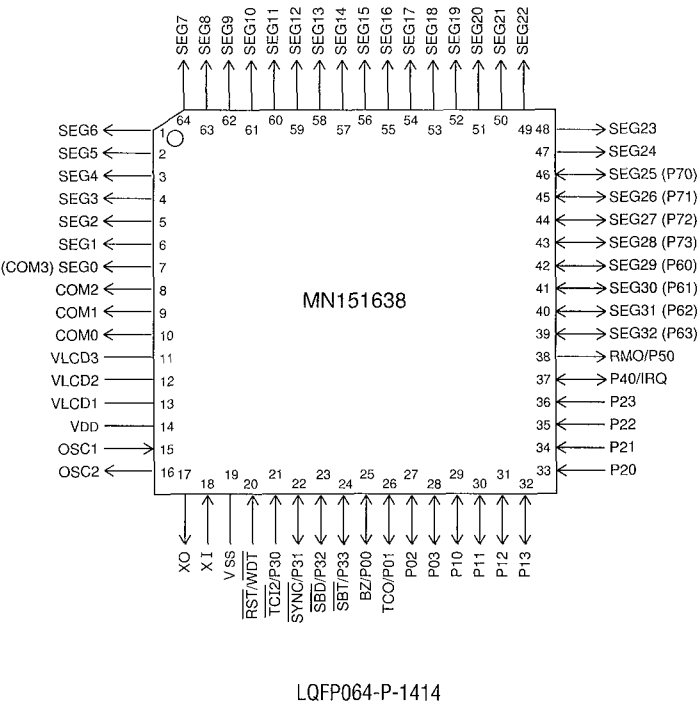
Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current	IDD1	fosc=4MHz, 1/8 dividing		1 0	3 0	mA
Supply Current at STOP	IDD8	fxi=32 768kHz		4 0	15	μA
	IDD9	Oscillation halt (Ta=25°C)			2 0	μA
Supply Current at HALT	IDD4	fosc=4MHz		0 6	1 2	mA

(Ta= −40 to +85°C, VDD=3.0V, VSS=0V)

Support Tool

In-Circuit Emulator	PX-ICE1500 + PX-PRB151638	
EPROM built-in Type	Type	MN15P1638
	ROM (x 8-bit)	16K
	RAM (x 4-bit)	512
	Minimum Instruction Execution Time	1 818μs at 1/8 frequency dividing (at 2 35 to 5 5V, 4 4MHz) 0 94μs at 1/4 frequency dividing (at 3 0 to 5 5V, 4.24MHz)
	Package	LQFP064-P-1414

Pin Assignment



※ P30 to P33 Input only when used as the port 3.
P60 to P63, P70 to P73 I/O when used as the port 6 or 7