❑ MN6750165 / 245 / 325 / 405

Type			**MN6750165 / 245 / 325 / 405**
ROM (x8-bit)			16K / 24K / 32K / 40K
RAM (x8-bit)			384 / 512 / 640 / 768
Minimum Instruction Execution Time			**0.5µs (at 4.5 to 5.5V, 8MHz)** **128µs (at 3.0 to 5.5V, 8MHz, operates in fosc/256)** **(Operation with 32.768kHz by Mask Option)**
Interrupts			• RESET • Runaway • External • Input Capture 0 • Input Capture 1 • Timer 0 • Timer 1 • Timer 2 • Timer 3 • Timer 4 • Serial Transmission/Reception • Serial Transmission/Reception / A/D
I/O Pins	**I/O**	**39**	• Common use : 23 • Clock / HSW Synchronous Output Port selectable (Mask Option)
	Input	**12**	• Common use
	Output	**1**	• Common use
A/D Inputs			8-bit x 8ch (without S/H)
PWM			11-bit x 2ch (at Repetition Cycle 256µs, 8MHz), 10-bit x 2ch (at Repetition Cycle 128µs, 8MHz), 14-bit x 1ch (at Repetition Cycle 8.192ms, 8MHz)
ICR			16-bit x 5ch

Timer Counter

Timer Counter 0 : 16-bit x 1 (Synchronous Interrupt function)
Clock Source .....System Clock, 1/16, 1/256 of OSC Oscillation Clock
Interrupt Source .....Overflow of Timer Counter 0,
Coincidence of Output Compare Register 0 compare to Timer Counter 0

Timer Counter 1 : 16-bit x 1 (Timer Output, Event Count, Synchronous Serial Clock Generator, Linear Time Counter [Counter for CTL Signal])
Clock Source .....System Clock, 1/16 of OSC Oscillation Clock, CTL Signal
Interrupt Source .....Overflow of Timer Counter 1

Timer Counter 2 : 16-bit x 1 (Timer Output, Input Capture)
Clock Source .....System Clock, 1/16, 1/24 of OSC Oscillation Clock
Interrupt Source .....Overflow of Timer Counter 2, DCTL Signal Edge,
Shift Register 4-bit Counter Underflow,
Coincidence of Compare Register and Shift Register

Timer Counter 3 : 16-bit x 1 (Timer Output, Serial Index Search)
Clock Source .....System Clock, 1/16 of OSC Oscillation Clock
Interrupt Source .....Overflow of Timer Counter 3

Timer Counter 4 : 16-bit x 1 (Timer Output, Event Count, Time Base)
Clock Source .....1/4, 1/16, 1/256 of OSC Oscillation Clock, XI Oscillation Clock, External Clock Input
Interrupt Source .....SPGIRQ, HOCRIRQ, Overflow of Timer Counter 4

Timer Counter 5 : 16-bit x 1 (Timer Output, Watchdog)
Clock Source .....1/4 of OSC Oscillation Clock

Serial Interface

Serial 0 : 8-bit x 1 (Synchronous Type) (Transfer direction of MSB/LSB selectable, Start Condition function)
Clock Source .....1/2 1/4, 1/8 of Timer Counter 1, 1/2 of Timer 4, $\overline{SBT0}$ Pin Input

Serial 1 : 8-bit x 1 (Synchronous Type) (Transfer direction of MSB/LSB selectable, Start Condition function, Simple Remote Control Reception)
Clock Source .....1/2, 1/4, 1/8 of Timer Counter 2, 1/2 of Timer 4, $\overline{SBT1}$ Pin Input

OCR	16-bit x 7ch, 8-bit x 1ch
Special Ports	Tri-state Output : VLP, Synchronous Output : 7, Tri-state Synchronous Output : 4, CTL Amp, FG Amp etc. built-in
Notes	VISS/VASS Detector function, 14-bit PWM, Digital PGMM, XI/XO Pin, added to MN675201
Package	QFP084-P-1818E

Electrical Characteristics

Supply Current

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current		At 8MHz Operation, No load STBH (ANACNT; bp0)=1		25	50	mA
Supply Current at STOP		Oscillation halt, No load STBH (ANACNT; bp0)=0			50	µA

(Ta=25°C, VDD=5.0V, VSS=0V)

A/D Converter Characteristics

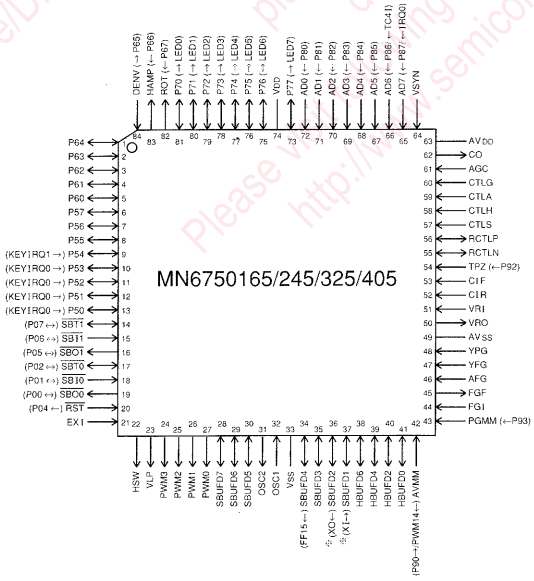
Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Differential Nonlinearity	ΔNLad				±3	LSB
A/D Conversion Time	Tad	8MHz		32		µs

(Ta=25°C, VDD=5.0V, VSS=0V)

Support Tool

In-Circuit Emulator	PX-ICE1870 / 80 + PX-PRB6750325
Piggyback	Use **EP6750325** as piggy in QFP084-P-1818E package.
EPROM built-in Type	Use **MN67P50645** [ES (Engineering Sample) available] in QFP084-P-1818E package.

Pin Assignment



QFP084-P-1818E

※ XI, XO : Mask Option

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