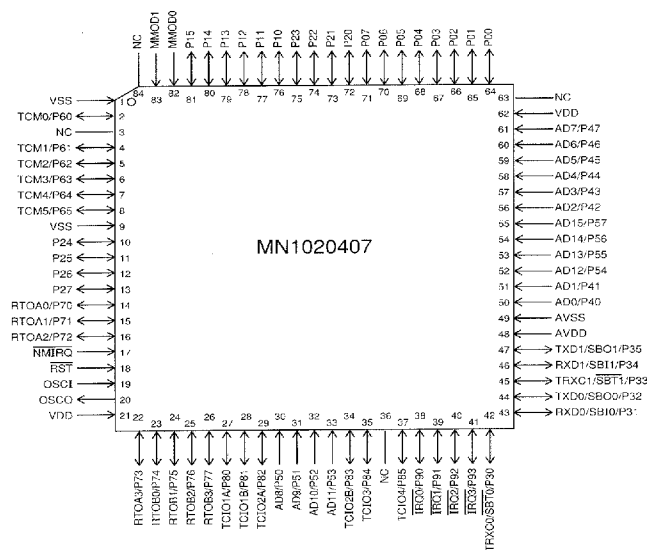


MN1020407

Type		MN1020407 [ES (Engineering Sample) is available]	
ROM (x8-bit)		32K (External memory cannot be expanded)	
RAM (x8-bit)		1K (External memory cannot be expanded)	
Minimum Instruction Execution Time		122ns (at 4.5 to 5.5V, 16.39MHz)	
Interrupts		• RESET • Watchdog • Timer Counter 2 to 5 • Underflow of Timer Counter 0 • Timer Counter 1 Compare Capture A • Timer Counter 1 Compare Capture B • External 0 to 3 • Serial ch 0,1 Transmission • Serial ch 0, 1 Reception • A/D Conversion finish • Coincidence with Timer Counter 0 Base Register	
Timer Counter		Timer Counter 0 : 16-bit x 1 (Inverter control, PWM Output) Clock Source1/1, 1/2, of System Clock Interrupt SourceCoincidence with Base Register or Underflow Timer Counter 1 : 16-bit x 1 (Timer Output, Event Count, Input Capture, PWM Output, Up Down function, 2-Phase Encoder Input) Clock Source1/2 of OSCI Oscillation Clock, TCIO1B Pin Input Interrupt SourceCoincidence with Compare Capture A or at Capture Coincidence with Compare Capture B or at Capture Timer Counter 2 : 8-bit x 1 (Timer Output, Event Count) Clock Source1/2 of OSCI Oscillation Clock, TCIO2 Pin Input Interrupt SourceUnderflow of Timer Counter 2 Timer Counter 3 : 8-bit x 1 (Timer Output, Event Count, AD Conversion Startup) Clock SourceTCIO3 Pin Input, 1/2 of OSCI Oscillation Clock, Timer 3 Output Interrupt SourceUnderflow of Timer Counter 3 Timer Counter 4 : 8-bit x 1 (UART Baud Rate Generator(2ch), Synchronous Serial Clock Generator (2ch)) Clock Source1/2 of OSCI Oscillation Clock, Timer 2 Output, Timer 3 Output Interrupt SourceUnderflow of Timer Counter 4 Timer Counter 5 : 8-bit x 1 (UART Baud Rate Generator (2ch), Synchronous Serial Clock Generator (2ch)) Clock Source1/2 of OSCI Oscillation Clock, Timer 2 Output, Timer 4 Output Interrupt SourceUnderflow of Timer Counter 5 Timer 2, 3, 4, 5 can be cascade-connected by 8-bit unit. (Maximum 32-bit)	
Serial Interface		Serial 0 : 7, 8, 9-bit x 1 (Common use with UART, Only at 8-bit Trasfer direction of MSB/LSB selectable, Start Condition function) Clock Source1/8 of Timer Counter 4, 1/8 of Timer Counter 5, 1/1, 1/2, 1/8, 1/32, 1/128, 1/256 of System Clock Serial 1 : 7, 8, 9-bit x 1 (Common use with UART, Only at 8-bit Trasfer direction of MSB/LSB selectable, Start Condition function) Clock Source1/8 of Timer Counter 4, 1/8 of Timer Counter 5, 1/1, 1/2, 1/8, 1/32, 1/128, 1/256 of System Clock UART x 2 (Common use with Serial)	
I/O Pins	I/O	52	• Common use : 20 • Input/Output selectable : 52 (by -bit) • LED Driver : 6 (10mA) • Specified pull-up Resistor available (Software Programmable) : 38 • Photo Coupler Driver : 6 (15mA)
	Input	16	• Common use: 8 Dedicated : 8
A/D Inputs		8-bit x 8ch (with S/H)	
PWM		16-bit x 2ch	

ICR	(16-bit x 1ch)
OCR	(16-bit x 1ch)
Notes	Inverter control circuit, three phase 6 outputs, triangular wave modulation, built-in power transistor short-prevention circuit (three 8-bit deadlock timers), function of the force output off by hardware when an abnormality is detected
Package	QFP084-P-1818E
Support Tool	
In-Circuit Emulator	PX-ICE102B00 + PX-PRB1020407
EPROM built-in Type	Use MN102P0707 (under development) in QFP084-P-1818E package.
Pin Assigment	



QFP084-P-1818E

NC : Nothing connected with pin.