

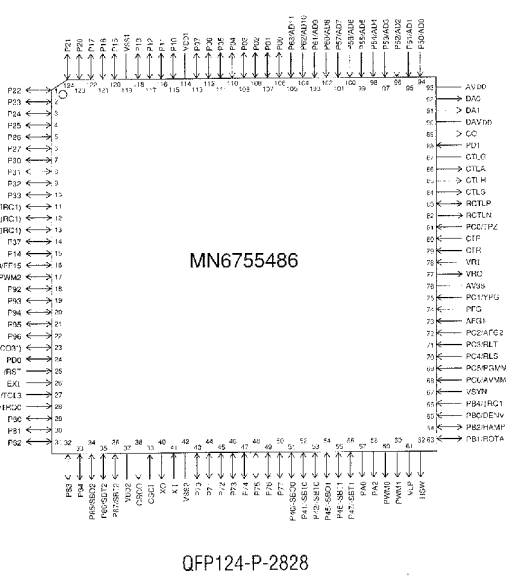
■ MN6755486 / 675556

Type	MN6755486 / 675556	
ROM (x8-bit)	48K / 64K	
RAM (x8-bit)	1024 / 1536	
Minimum Instruction Execution Time	With Main Clock operated	0.25μs (at 3.0 to 4.0V, 16MHz) : MN6755486 (128pin), MN675556 0.33μs (at 4.0 to 5.5V, 12MHz) : MN6755486 (124pin)
	With Sub-clock operated	122μs (at 2.2 to 4.0V, 32kHz) : MN6755486 (128pin), MN675556 122μs (at 2.2 to 5.5V, 32kHz) : MN6755486 (124pin)
Interrupts	<ul style="list-style-type: none"> • RESET • Runaway • External 0 • External 1 (4 Input Expandable) • Cylinder FG • Capstan FG • HSW • VSYNC • General-use Capture • Free Running Counter • CTL • Winding Reel FG • Feeding Reel FG • Timer 0 to 5 • Synchronous Output • Continuous Synchronous Output • DMA • Direction Detection • Serial 0, 1, 2 • A/D 	
Timer Counter	<p>Timer Counter 0 : 16-bit x 1 (Synchronous Interrupt function) Clock SourceSystem Clock, XI Oscillation Clock, 1/32 of OSC Oscillation Clock Interrupt SourceOverflow of Timer Counter 0, Coincidence of Output Compare Register</p> <p>Timer Counter 1 : 16-bit x 1 (Event Count, Synchronous Serial Clock Generator) Clock SourceSystem Clock, 1/32 of OSC Oscillation Clock, AFG Frequency Dividing Signal Interrupt SourceOverflow of Timer Counter 1</p> <p>Timer Counter 2 : 16-bit x 1 (Event Count, Input Capture, Synchronous Interrupt function) Clock SourceSystem Clock, 1/32, 1/48 OSC Oscillation Clock Interrupt SourceOverflow of Timer Counter 2, DCTL Signal Edge, Bit Counter Underflow of Shift Register, Coincidence of Compare Register and Shift Register</p> <p>Timer Counter 3 : 16-bit x 1 (Timer Output [Possible at Mask Option], Event Count, Serial Index Search) Clock SourceSystem Clock, 1/32 of OSC Oscillation Clock, TC13 Input Interrupt SourceOverflow of Timer Counter 3</p> <p>Timer Counter 4 : 16-bit x 1 (Event Count, Linear Time Count) Clock Source1/32 of OSC Oscillation Clock, CTL Signal Interrupt SourceOverflow of Timer Counter 4</p> <p>Timer Counter 5 : 30-bit x 1 (Clock, Buzzer Output) Clock SourceSystem Clock, XI Oscillation Clock, 1/32, 1/256 of OSC Oscillation Clock Interrupt SourceOverflow of Timer Counter (Interrupts for second, minutes, and hours can be created.)</p> <p>Watchdog Timer : 19-bit x 1 (Watchdog) Clock SourceOSC Oscillation Clock, XI Oscillation Clock, Interrupt SourceWatchdog Timer period 65.6ms (fosc=at 16MHz), 84.7ms (fosc=at 12MHz), 128ms (XI=at 32kHz)</p>	
Serial Interface	<p>Serial 0 : 8-bit x 1 (Synchronous Type) (Transfer direction of MSB/LSB selectable, Start Condition function) Clock Source1/2, 1/4, 1/8 of System Clock, 1/256 of OSC Oscillation Clock, 1/2 of Timer Counter 1, SBT0 Pin Input</p> <p>Serial 1 : 8-bit x 1 (Synchronous Type) (Transfer direction of MSB/LSB selectable, Start Condition function) Clock Source1/2, 1/4, 1/8 of System Clock, 1/256 of OSC Oscillation Clock, 1/2 of Timer Counter 1, SBT1 Pin Input</p> <p>Serial 2 : 8-bit x 1 (Synchronous Type) (Transfer direction of MSB/LSB selectable, Start Condition function) Clock Source1/2, 1/4, 1/8 of System Clock, 1/256 of OSC Oscillation Clock, 1/2 of Timer Counter 1, SBT0 Pin Input</p>	

I/O Pins	I/O	64	• Common use : 32
	Input	27	• Common use
	Output	4	
A/D	8-bit x 12ch (without S/H)		
D/A	13-bit x 2ch		
PWM	8-bit x 2ch (at Repetition Cycle 32μs, 16MHz), 14-bit x 1ch (at Repetition Cycle 1.024ms, 16MHz)		
ICR	18-bit x 3ch, 16-bit x 5ch		
OCR	16-bit x 2ch		
FGICR	9-bit x 1ch, 11-bit x 3ch		
Simple Remote-control Reception Function	On-chip 4:3 majority-verdict circuit and general-use capture circuit (IRQ0 input)		
Special Ports	Real Time Output [16 (with DMA function), 4 (4-state Synchronous Output), 8 (2-state Synchronous Output)], CTL Amp, DMA, Reel FG Input		
Notes	VISS/VASS Detector function		
Package	MN6755486 : QFP124-P-2828, QFP128-P-1818 MN675556 : QFP128-P-1818		

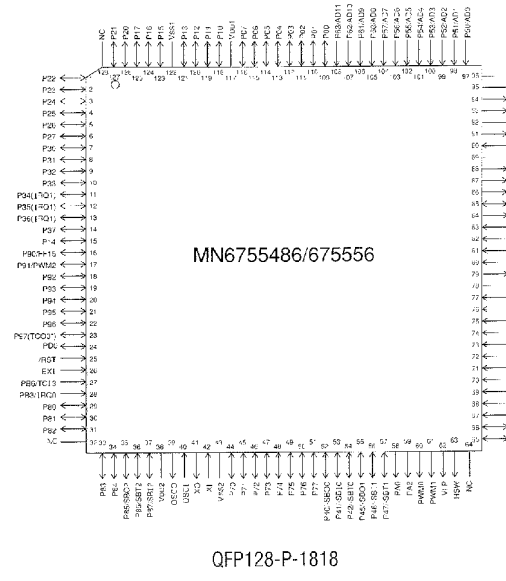
Support Tool

In-Circuit Emulator	Mr. ICE / 186D (made by Computex Co. Ltd.)
Piggyback	Use EP67556 as piggy in QFP124-P-2828 / QFP128-P-1818 package.
EPROM built-in Type	Use MN67P55646 [ES (Engineering Sample) available] in QFP124-P-2828 / QFP128-P-1818 package.
Pin Assignment	



MN6755486

QFP124-P-2828



MN6755486/675556

QFP128-P-1818

NC : Nothing connected with pin.

See the next page for electrical characteristics.

Electrical Characteristics

Supply Current (MN6755486 (128pin), MN675556)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current	IDD1	fosc=16M, STBH (ANACNT, #A9)='01'		30	50	mA
Supply Current at STOP	IDD2	Oscillation halt, No load STBH (ANACNT, #A9)='00'			10	μA
Supply Current at SLOW	IDD3	VDD=3V, XI=32kHz, STBH=0, No load		250	500	μA
Supply Current at HALT	IDD4	VDD=3V, XI=32kHz, STBH=0, No load		5	10	μA

(Ta=25°C, VDD=5.0V, VSS=0V)

A/D Converter Characteristics (MN6755486 (128pin), MN675556)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
A/D Conversion Absolute Error					±3	LSB
A/D Conversion Relative Error					±3	LSB
A/D Conversion Time		fosc=16MHz		3.25		μs
Analog Input Voltage			0.32		2.88	V

(Ta=25°C, VDD=5.0V, VSS=0V)

Supply Current (MN6755486 (124pin))

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current	IDD1	fosc=16M, STBH (ANACNT, #A9)='01'		30	55	mA
Supply Current at STOP	IDD2	Oscillation halt, No load STBH (ANACNT, #A9)='00'			10	μA
Supply Current at SLOW	IDD3	VDD=3V, XI=32kHz, STBH=0, No load			500	μA
Supply Current at HALT	IDD4	VDD=3V, XI=32kHz, STBH=0, No load		5	10	μA

(Ta=25°C, VDD=5.0V, VSS=0V)

A/D Converter Characteristics (MN6755486 (124pin))

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
A/D Conversion Absolute Error					±3	LSB
A/D Conversion Relative Error					±3	LSB
A/D Conversion Time		fosc=12MHz		4.33		μs
Analog Input Voltage			0.5		4.5	V

(Ta=25°C, VDD=5.0V, VSS=0V)