❑ MN6755240 / 320

Type			**MN6755240 / 320**
ROM (x8-bit)			24K / 32K
RAM (x8-bit)			704 / 1024
Minimum Instruction Execution Time	With Main Clock operated		**0.33µs (at 3.3 to 5.5V, 12MHz)** **0.25µs (at 4.2 to 5.5V, 16MHz)**
	With Sub-clock operated		**122µs (at 3.3 to 5.5V, 32.768kHz)**
Interrupts	• RESET • Runaway • External 0 • External 1 • Cylinder FG • Capstan FG • HSW • VSYNC • General-use Capture • Free Running Counter • CTL • Winding Reel FG • Feeding Reel FG • Timer 0 to 4 • Synchronous Output • Continuous Synchronous Output • DMA • Direction Detection • Serial 0, 1 • A/D		
Timer Counter	**Timer Counter 0 : 16-bit x 1** (Synchronous Interrupt function) Clock Source .....System Clock, XI Oscillation Clock, 1/32 of OSC Oscillation Clock Interrupt Source .....Overflow of Timer Counter 0, Coincidence of Output Compare Register **Timer Counter 1 : 16-bit x 1** (Event Count, Synchronous Serial Clock Generator) Clock Source .....System Clock, 1/32 of OSC Oscillation Clock, AFG Frequency Dividing Signal Interrupt Source .....Overflow of Timer Counter 1 **Timer Counter 2 : 16-bit x 1** (Event Count, Input Capture, Synchronous Interrupt function) Clock Source .....System Clock, 1/32, 1/48 OSC Oscillation Clock Interrupt Source .....Overflow of Timer Counter 2, DCTL Signal Edge, Bit Counter Underflow of Shift Register, Coincidence of Compare Register and Shift Register **Timer Counter 3 : 16-bit x 1** (Timer Output [Possible by Mask Option], Event Count, Serial Index Search) Clock Source .....System Clock, 1/32 of OSC Oscillation Clock, TCI3 Input Interrupt Source .....Overflow of Timer Counter 3 **Timer Counter 4 : 16-bit x 1** (Event Count, Linear Time Count) Clock Source .....1/32 of OSC Oscillation Clock, CTL Signal Interrupt Source .....Overflow of Timer Counter 4 **Watchdog Timer : 19-bit x 1** (Watchdog) Clock Source .....OSC Oscillation Clock, XI Oscillation Clock, Interrupt Source .....Watchdog Timer period 32.7ms (fosc=at 16MHz), 43.7ms (fosc=at 12MHz), 64ms (XI=at 32kHz)		
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 System Clock, 1/2 of Timer Counter 1, $\overline{SBT0}$ Pin Input Serial 1 : 8-bit x 1 (Synchronous Type) (Transfer direction of MSB/LSB selectable, Start Condition function) Clock Source .....1/2, 1/4, 1/8 of System Clock, 1/2 of Timer Counter 1, $\overline{SBT1}$ Pin Input		
I/O Pins	**I/O**	**64**	• Common use : 32
	Input	**25**	• Common use
	Output	**4**	
A/D Inputs	8-bit x 12ch (without S/H)		
D/A (Analog) Outputs	13-bit x 2ch		
PWM	8-bit x 2ch (at Repetition Cycle 32µs, 6MHz), 14-bit x 1ch (at Repetitio Cycle 1.024ms, 16MHz)		
ICR	18-bit x 3ch, 16-bit x 5ch		

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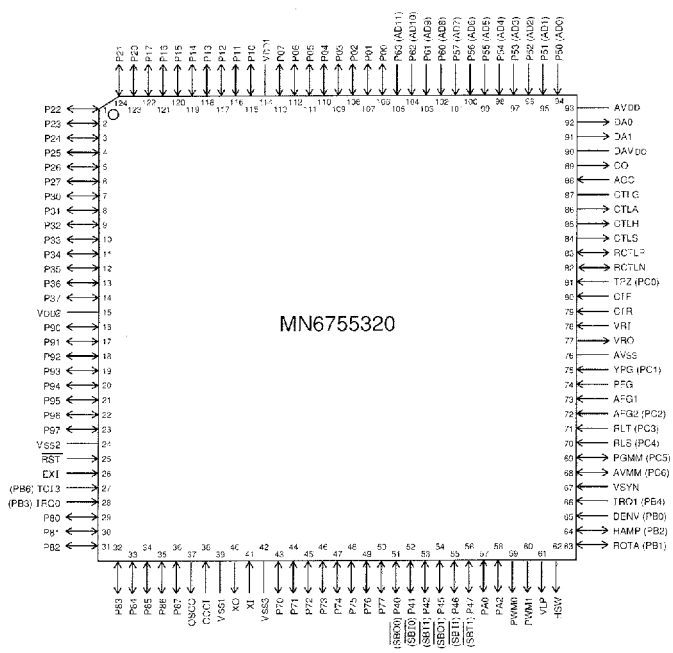
OCR	16-bit x 2ch
FGICR	9-bit x 1ch, 11-bit x 3ch
Special Ports	Real Time Output [16 (with DMA function), 2 (4-state Synchronous Output), 8 (2-state Synchronous Output)], CTL Amp, DMA, Reel FG Input
Notes	VISS/VASS Detector function
Package	QFP124-P-2828 (MN6755320), QFP128-P-1818 (MN6755240)

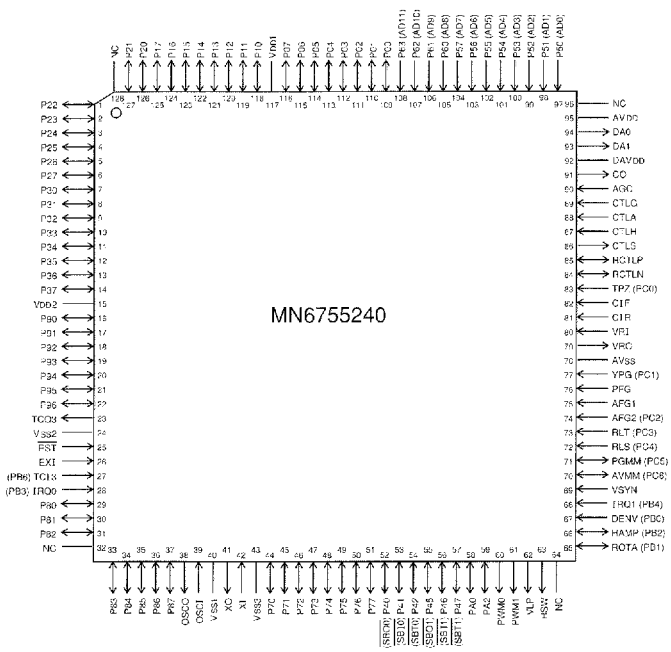
Support Tool

In-Circuit Emulator	Mr. ICE / 1860 (made by Computex Co. Ltd.)
Piggyback	Use **EP67550** as piggy in QFP124-P-2828 / QFP128-P-1818 package.
EPROM built-in Type	Use **MN67P55320** [ES (Engineering Sample) available] in QFP124-P-2828 / QFP128-P-1818 package.

Pin Assignment



QFP124-P-2828



QFP128-P-1818

See the next page for electrical characteristics.

Electrical Characteristics

Supply Current

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current	IDD1	fosc=12M, STBH (ANACNT, #A9)='01'		30	50	mA
Supply Current at STOP	IDD2	Oscillation halt, No load STBH (ANACNT, #A9)='00'			50	μA

(Ta=25°C, VDD=5.0V, VSS=0V)

A/D, D/A Converter Characteristics

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			0.5		4.5	V

(Ta=25°C, VDD=5.0V, VSS=0V)