

MN155202 / 402

Type		MN155202 / 402	
ROM (x8-bit)		2K / 4K	
RAM (x4-bit)		128 / 192	
Number of Instructions		98	
Minimum Instruction Execution Time		1.0μs (at 4.5 to 5.5V, 8MHz) 4.0μs (at 2.0 to 5.5V, 2MHz)	
Interrupts		• RESET • External (Key Interrupt is available) • Timer • Serial	
Timer Counter		Timer Counter : 8-bit x 1 (Timer Output, Event Count) Clock Source1/4, 1/16, 1/64, of P20 Pin Input, 1/2, 1/8, 1/32, 1/128 of System Clock 1/4, 1/16, 1/64 of XI Oscillation Clock Interrupt SourceOverflow of Timer Counter Time Base Counter (Time Base) Clock SourceOSC Oscillation Clock Watchdog Timer	
Serial Interface		Serial : 8-bit x 1 (Synchronous Type) Clock SourceSystem Clock, SBT Pin Input	
I/O Pins	I/O	21	• Common use : 13 • LED Driver : 8 (15mA / 1.0V) • Specified pull-up Resistor available, Input selectable : 21 (by -bit, Mask Option)
Zero-cross Inputs		1	
A/D Inputs		10-bit x 6ch (with S/H)	
Notes		Crystal / CR Oscillation selectable	
Package		MN155202 : SDIP028-P-0400, SOP028-P-0375 MN155402 : SDIP028-P-0400, SOP028-P-0375, QFH032-P-0707	

Electrical Characteristics

Supply Current

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current	IDD1	fosc=8MHz, VDD=5V			10	mA
	IDD2	fosc=2MHz, VDD=5V			2.5	mA
Supply Current at STOP	IDD3	at no Auto-reset (Oscillation halt)			5	μA
Supply Current at HALT	IDD4	fosc=8MHz			3	mA

(Ta= -20 to +70°C, VDD=5.0V, VSS=0V)

A/D Converter Characteristics

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
A/D Conversion Relative Error	DF LNTY	AVDD=VDD=5.0V, AVSS=VSS=0V			※±3	LSB
A/D Conversion Time	VCNV	fosc=8MHz		12		μs
Analog Input Voltage			AVSS		AVDD	V

(Ta= -20 to +70°C, VDD=5.0V, VSS=0V)

※±3 LSB relative error is a design-assured value.

Support Tool

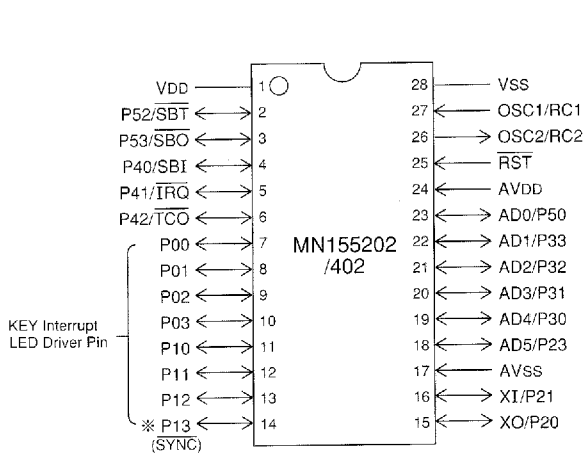
In-Circuit Emulator

PX-ICE1500 + PX-PRB155202

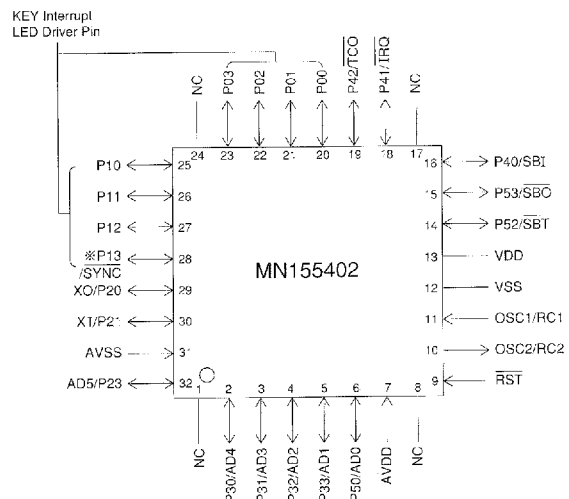
EPROM built-in Type

Use **MN15P5402** in SDIP028-P-0400 / SOP028-P-0375 package.

Pin Assignment



SDIP028-P-0400 / SOP028-P-0375



QFH032-P-0707

※ SYNC signal will be output from this pin during internal RESET.

After RESET, this pin will function as P13.

NC : Nothing connected with pin.