

■ Pin Descriptions

Pin No.		Symbol	Pin Name	I/O	Description
64 SDIP	64-QFP				
62	54	V_{DD}	Power supply	I	Connect +3.0-5.5 V to V_{DD} , and 0 V to V_{SS} .
1	57	V_{SS}			
64	56	OSC1	Clock input	I	Oscillation terminals to connect f_{osc} ceramic oscillator or crystal oscillator. A feedback resistor is incorporated between OSC1 and OSC2.
63	55	OSC2	Clock output	O	
3	59	XI	Clock input	I	Event counter clock source terminals to connect a crystal oscillator. A feedback resistor between XI and XO can be selected with a mask option. They serve as an operating clock source when XI/XO is specified by clock selection.
2	58	XO	Clock output	O	
13	5	RST	Reset input	I	Reset is applied if the "L" level is inputted over 0.3 μ s. A pull-up resistor can be specified with a mask option.
12	4	SYNC	SYNC. signal output	O	An internal timing signal is outputted every machine cycle at reset time.
14	6	IRQ (TCI)	External interrupt/pulse input	I	When used as an external interrupt, it receives an interrupt at a negative edge. A time base interrupt results in case of internal interrupt. TCI/IRQ can be selected through an internal port.
19	11	SBT	Serial interface clock I/O	I/O	Serial interface send/receive clock I/O terminal. It serves as an output terminal in the internal clock mode, and as an input terminal in the external clock mode. A pull up resistor can be specified with a mask option.
20	12	SBD	Serial interface data I/O	I/O	Serial interface send/receive data I/O terminal. It inputs 8-bit serial data in the receive mode, and outputs 8-bit serial data in the send mode. An output type is either push-pull or N-channel open drain which can be selected with a mask option.
35	27	DAC	D/A converter output	O	14 bit D/A converter output terminal(PWM system). An output type is either push-pull or N-channel which can be selected with a mask option.
4~11	60~64 1~3	P00~P13	Parallel data I/O	I/O	4-bit parallel data I/O ports. Output, I/O or input can be selected with a mask option. A pull-up resistor can be specified with a mask option.
21~28	13~20	P20~P33	Parallel data output	O	4-bit parallel data output ports.
29~32 15~18	21~24 7~10	P40~P53	Parallel data input	I	4-bit parallel data input ports. A pull-up resistor can be specified with a mask option. P50-53 can be also specified for TTL level input with a mask option. P43 and P73 are commonly used.
32	24	P73	Analog input	I	Input terminal to compare with V_{REF} . P43 and P73 are commonly used.
33 34	25 26	P60(V_{REF}) ~P61 (BZ)	Parallel data output terminal/input	O /I	2-bit parallel data output ports. P60 is the N-channel open drain output(LED directly drivable) and commonly used for V_{REF} . P61 can be specified for buzzer output with a mask option.
37~52	29~44	DGT0 ~DGTF	Fluorescent display tube digit output	O	High-voltage output terminal to be connected to a fluorescent display tube digit input terminal. Duty can be selected with a mask option. DGT0-4 can be specified for LED drivers with a mask option.

■ Pin Descriptions(Continued)

Pin No.		Symbol	Pin Name	I/O	Description
64-SDIP	64 QFP				
53~61	45~53	SEG0~ SEG8	Fluorescent display tube segment output	O	High-voltage output terminal to be connected to a fluorescent display tube segment input terminal.
36	28	V _{PP}	High voltage power	I	High-voltage output transistor loading power supply. Normally, V _{PP} = -30 V.

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