

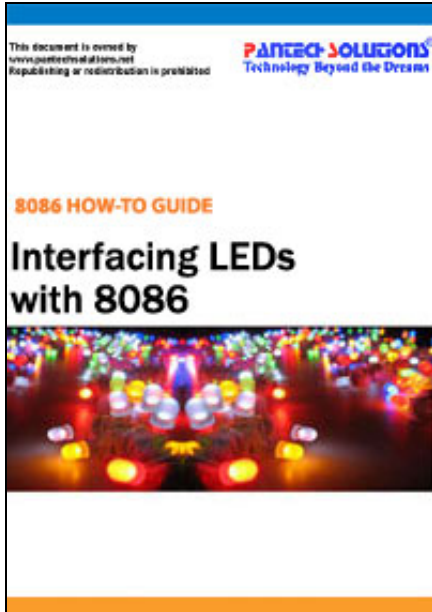
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How to Interface LED with 8086



8086 TRAINER BOARD

PS-TRAINER-8086A microprocessor trainer kit is proposed to smooth the progress of learning and developing designs of microprocessor from Intel. It has the facility to connect PC's 101/104 Keyboard, to enter user programs in Assembly languages. User verifies the programs through LCD or PC. User friendly Firmware confirms facilitating the beginners learn operations of a microprocessor quickly.

LED (LIGHT EMITTING DIODES)

Light Emitting Diodes (LED) is the most commonly used components, usually for displaying pins digital states. Typical uses of **LEDs** include alarm devices, timers and confirmation of user input such as a mouse click or keystroke.

INTERFACING LED

Fig. 1 shows how to interface the **LED to microprocessor**. As you can see the Anode is connected through a resistor to GND & the Cathode is connected to the **Microprocessor** pin. So when the Port Pin is HIGH the **LED** is OFF & when the Port Pin is LOW the **LED** is turned ON.

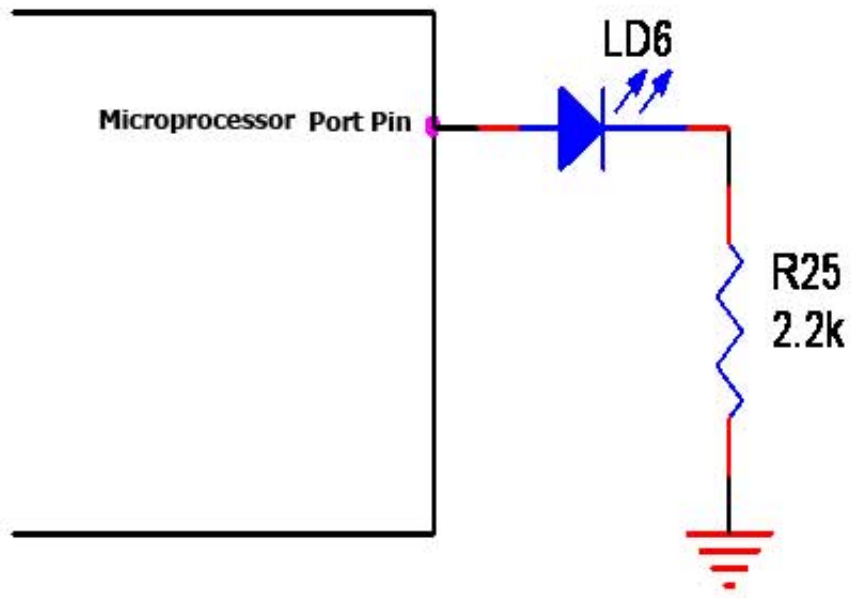


Fig. 1 Interfacing LED to Microprocessor

INTERFACING LED WITH 8086

To flash a **LED in 8086 Trainer Board**, turn ON a **LED** & then turn it OFF & then looping back to START. However the operating speed of **microprocessor** is very high.

PIN ASSIGNMENT WITH 8086

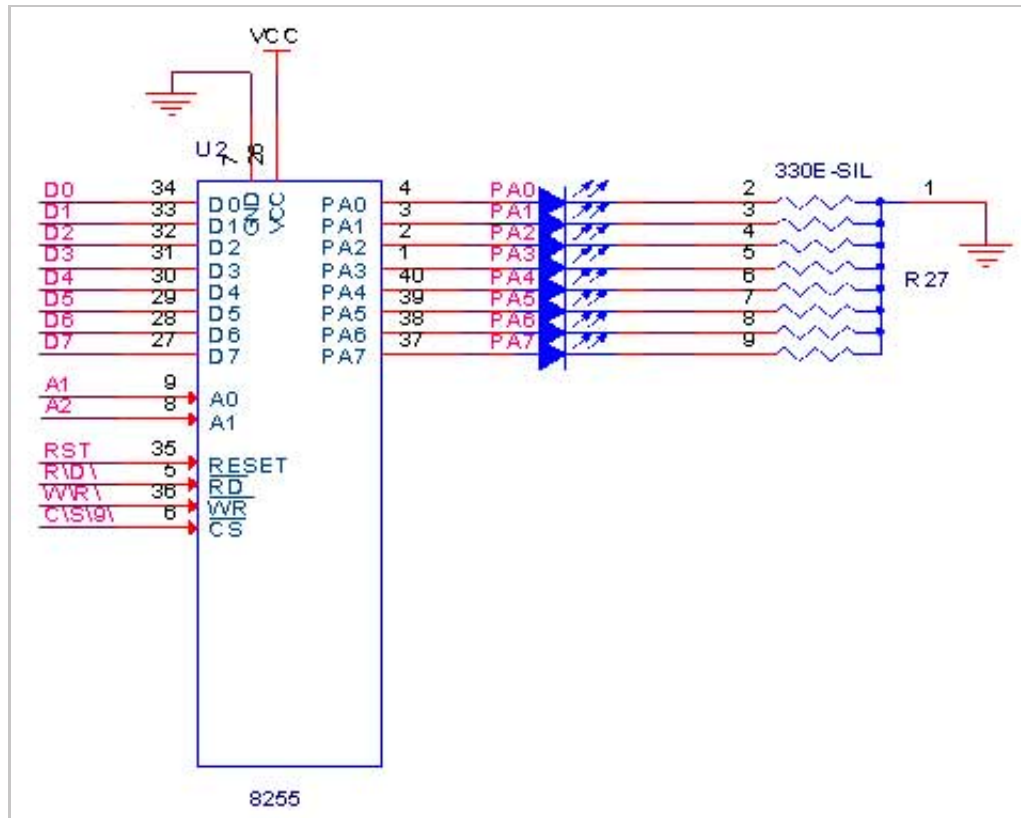
	Point LEDs	8255 Lines	LED Selection
DIGITAL OUTPUTS	LD1	PA.0	
	LD2	PA.1	
	LD3	PA.2	

LD4	PA.3
LD5	PA.4
LD6	PA.5
LD7	PA.6
LD8	PA.7



Make Pin High – LED ON
 Make Pin Low – LED OFF

CIRCUIT DIAGRAM TO INTERFACE LED WITH 8255



ASSEMBLY PROGRAM TO ON AND OFF LED USING 8086

Title : **Program to Blink LEDs**

MEMORY ADDRESS	OPCODE	MNEMONICS

1100	B0 80	MOV AL, 80
1102	BA36 FF	MOV DX, FF36
1105	EE	OUT DX, AL
1106	B0 00	BEGIN:MOV AL, 00
1108	BA 30 FF	MOV DX, FF30
110B	EE	OUT DX, AL
110C	E8 08 00	CALL DELAY
110F	B0 FF	MOV AL, FF
1111	EE	OUT DX, AL
1112	E8 02 00	CALL DELAY
1115	EB EF	JMP BEGIN
1117	B9 FF FF	DELAY: MOV CX, FFFF
111A	49	P0: DEC CX
111B	75 FD	JNE PO
111D	C3	RET

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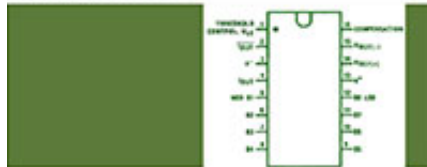
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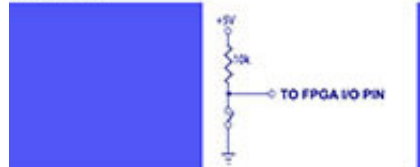
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