

## EN043501 - 3 個 LED 控制 IC

### GENERAL DESCRIPTION

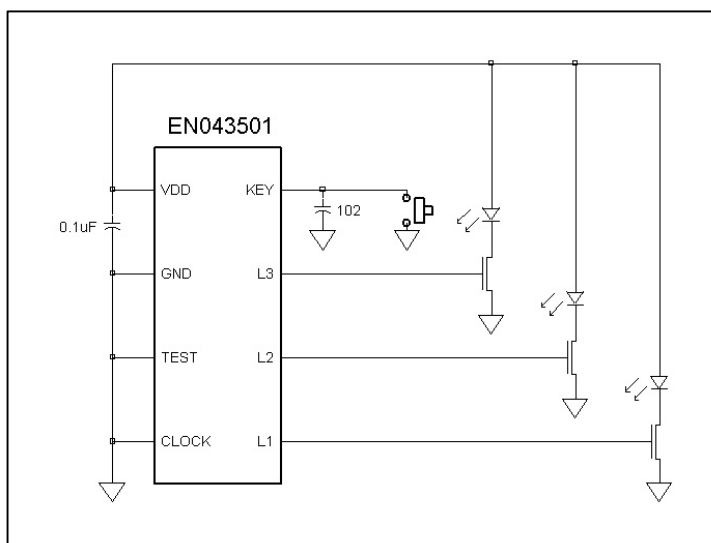
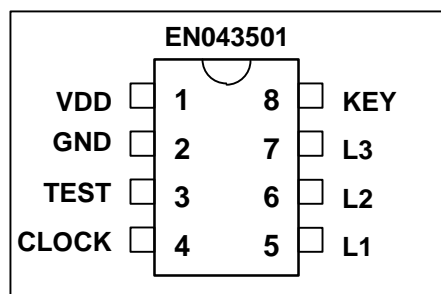
EN043501 為 3 個 LED 控制 IC，提供最多 4 段循環功能，依照不同型號提供不同的組合。

KEY 輸入端做為換段觸發按鍵，當 KEY 每次 go low trigger 時，視同觸發一次。L1、L2、L3 輸出端用來控制 LED。

### FEATURES

- 工作電壓範圍：VDD=2.0V ~ 5.0V
- 低靜態工作電流 5uA (VDD=3V)
- 提供 KEY 25mS de-bounce time
- 按住 KEY 不放，視同觸發一次，直到放手後，再次按 KEY 才能觸發至下一段

### PIN ASSIGNMENT AND APPLICATION CIRCUIT



### PIN DESCRIPTION

Pin Name	Type	Functional description
VDD	P	電源正端
GND	P	電源負端
TEST	I	IC 測試用腳位 (應用線路接地)
CLOCK	O	IC 測試用腳位 (應用線路接地)
L1	O	LED1 輸出端 (OFF : LOW、ON : HIGH)
L2	O	LED2 輸出端 (OFF : LOW、ON : HIGH)
L3	O	LED3 輸出端 (OFF : LOW、ON : HIGH)
KEY	I	換段觸發按鍵



## IC TYPE

EN043501-01	第一段	第二段	第三段	第四段
L1	OFF	ON		
L2	OFF	ON		
L3	OFF	ON		

EN043501-02	第一段	第二段	第三段	第四段
L1	OFF	ON	閃	
L2	OFF	ON	ON	
L3	OFF	ON	OFF	

EN043501-03	第一段	第二段	第三段	第四段
L1	OFF	ON	閃	ON
L2	OFF	ON	ON	閃
L3	OFF	ON	OFF	閃

## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min.	Max.	Units
V <sub>DD</sub>	DC Supply Voltage	-0.3	7.0	V
V <sub>IN</sub>	Input voltage	-0.3	V <sub>DD</sub> +0.3	V
T <sub>A</sub>	Operating Temperature	-10	75	
T <sub>J</sub>	Junction Temperature		150	
T <sub>S</sub>	Storage Temperature	-55	150	

\*Note: Stresses above those listed may cause permanent damage to the devices

## RECOMMENDED OPERATING CONDITIONS at Ta=25°C

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V <sub>DD</sub>	Supply Voltage		2.0		5.0	V
V <sub>IH</sub>	Input High Voltage	KEY	0.7V <sub>DD</sub>		V <sub>DD</sub> +0.3	V
V <sub>IL</sub>	Input Low Voltage	KEY	-0.3		0.3V <sub>DD</sub>	V

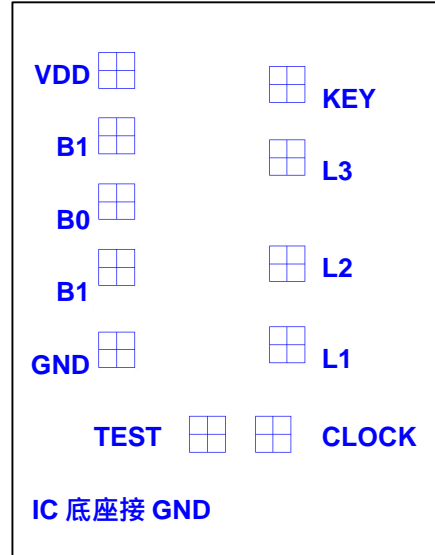
## ELECTRICAL CHARACTERISTICS at Ta=25°C , V<sub>DD</sub>= 3V

Symbol	Parameter	Condition	Min.	Typ.	Max.	Units
I <sub>DD</sub>	Standby Current ( OFF mode )	KEY、TEST、CLOCK floating L1、L2、L3 no load		5		uA
I <sub>OL</sub>	Sink current of low level at V <sub>OL</sub> =0.4V	L1、L2、L3		4		mA
I <sub>OH</sub>	Source current of high level at V <sub>OH</sub> =2.6V	L1、L2、L3		20		mA
T <sub>db</sub>	De-bounce time	KEY		25		ms
V <sub>IH</sub>	Input High Voltage	KEY				V
V <sub>IL</sub>	Input Low Voltage	KEY				V
R <sub>PH</sub>	Pull-high resistor	KEY		10		K
F <sub>OSC</sub>	Flash frequency	L1、L2、L3		5		Hz

## PAD LOCATION AND DIMENSION OF CHIP

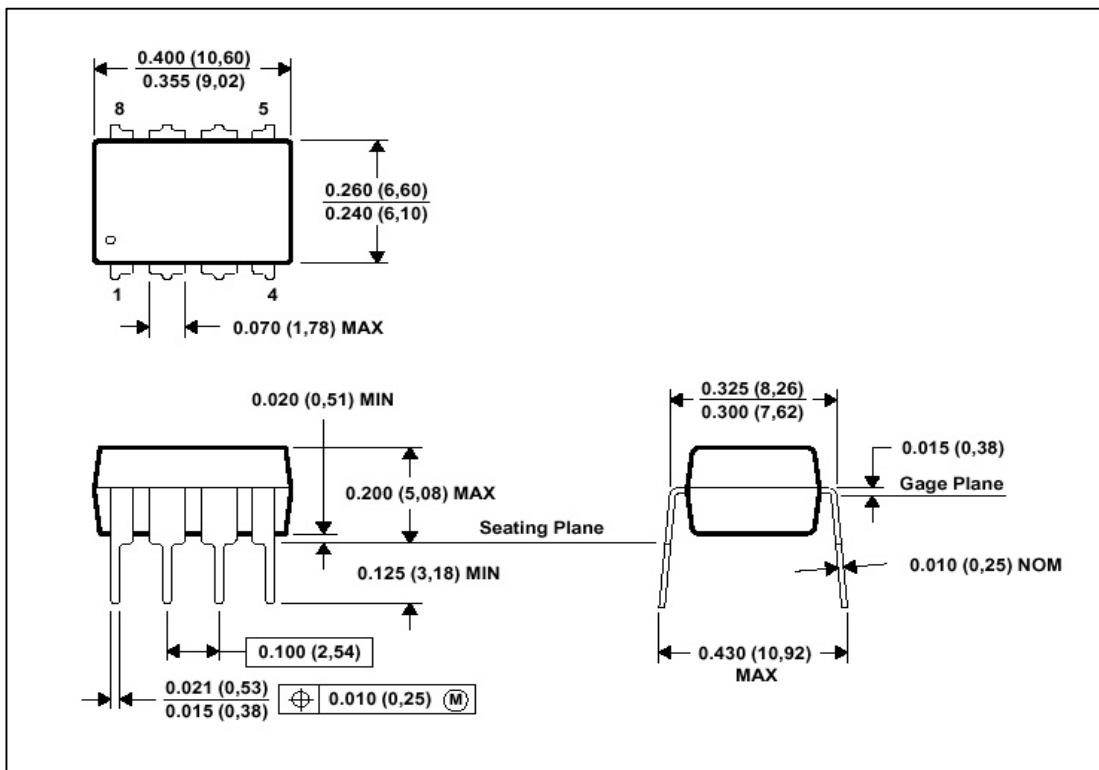
Die size X=640um Y=1160um

No	Name	X	Y
01	VDD	91	1069
02	B1	91	892.6
03	B0	91	716.2
04	B1	91	539.8
05	GND	91	318
06	TEST	334.9	91
07	CLOCK	511.3	91
08	L1	549	331
09	L2	549	549
10	L3	549	834.2
11	KEY	549	1031.4



## MECHANICAL INFORMATION

### PLASTIC DUAL-IN-LINE 8PIN PACKAGE

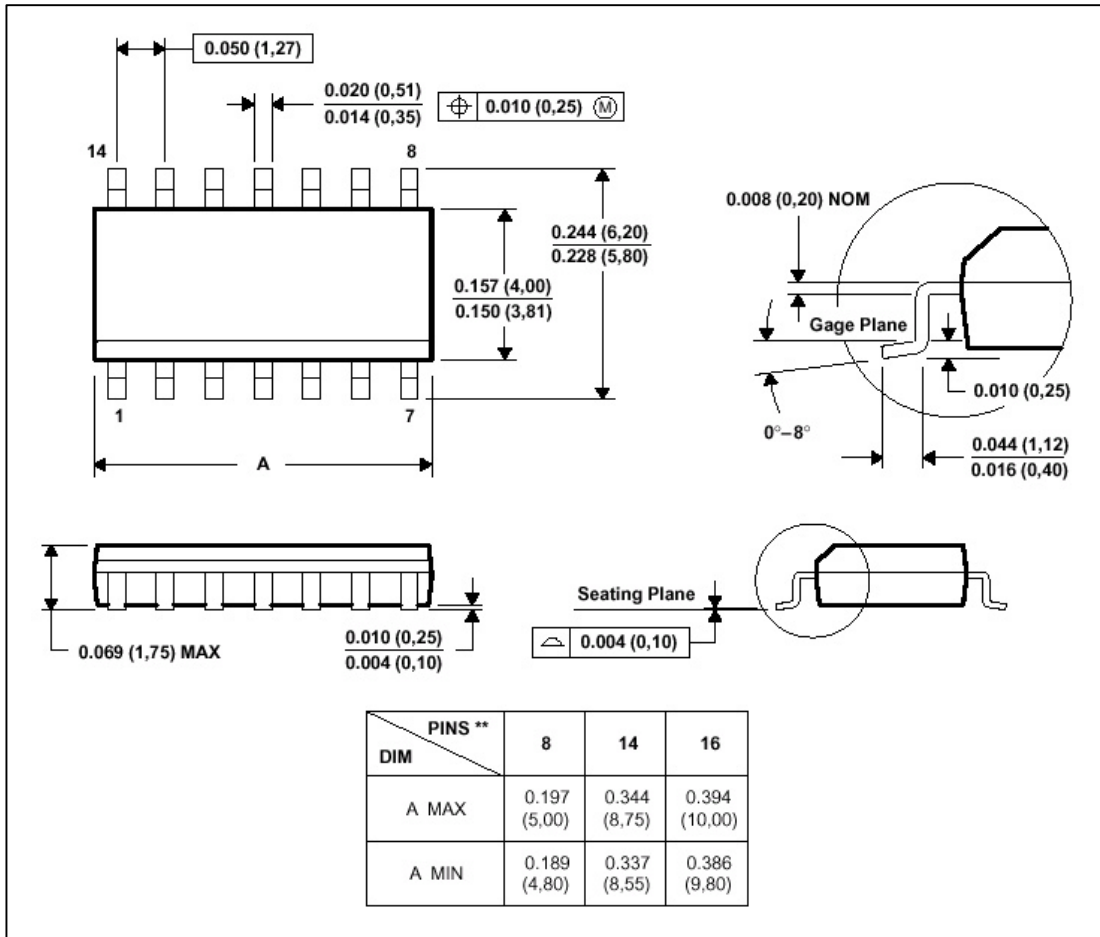


NOTE 1 : All linear dimensions are in inches ( millimeters ) .

NOTE 2 : This drawing is subject to change without notice.

NOTE 3 : Falls within JEDEC MS-001

PLASTIC SMALL-OUTLINE 8PIN PACKAGE



NOTE 1 : All linear dimensions are in inches ( millimeters ) .

NOTE 2 : This drawing is subject to change without notice.

NOTE 3 : Falls within JEDEC MS-012