

EN0438 - 1 個 LED 控制 IC

GENERAL DESCRIPTION

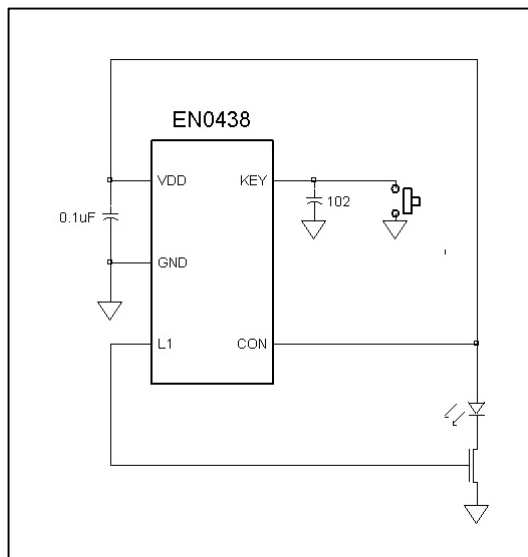
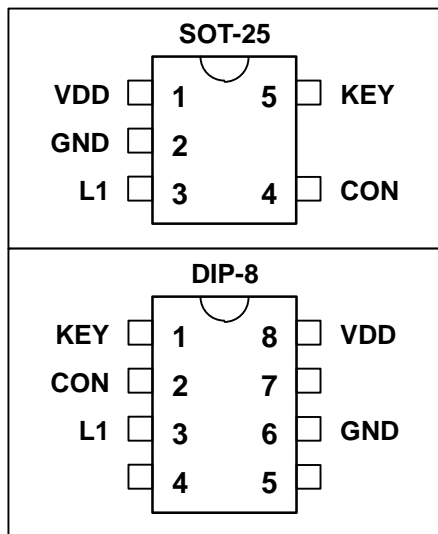
EN0438 為 1 個 LED 控制 IC，提供 2 段循環功能 (OFF mode ON mode)。

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。CON 輸入端控制 L1 的輸出極性，當 CON 接 High，L1 之 ON mode 為 High，當 CON 接 Low，L1 之 ON mode 為 Low。L1 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 |
| L1 | O | LED1 輸出端 |
| CON | O | 控制 L1 輸出極性 (LOW : L1 active low、HIGH : L1 active high) |
| KEY | I | 換段觸發按鍵 |

ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Min. | Max. | Units |
|-----------------|-----------------------|------|----------------------|-------|
| V _{DD} | DC Supply Voltage | -0.3 | 7.0 | V |
| V _{IN} | Input voltage | -0.3 | V _{DD} +0.3 | V |
| T _A | Operating Temperature | -10 | 75 | |
| T _J | Junction Temperature | | 150 | |
| T _S | 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 _{DD} | Supply Voltage | | 2.0 | | 5.0 | V |
| V _{IH} | Input High Voltage | KEY | 0.7V _{DD} | | V _{DD} +0.3 | V |
| V _{IL} | Input Low Voltage | KEY | -0.3 | | 0.3V _{DD} | V |

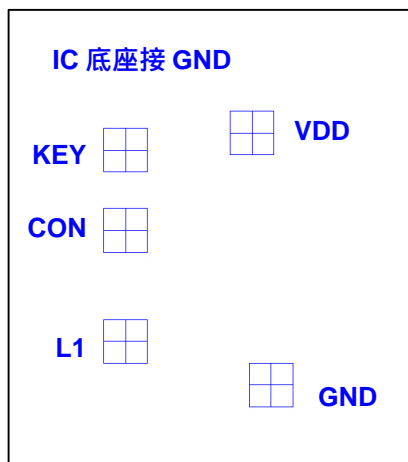
ELECTRICAL CHARACTERISTICS at Ta=25°C , V_{DD}= 3V

| Symbol | Parameter | Condition | Min. | Typ. | Max. | Units |
|-----------------|--|----------------------------|------|------|------|-------|
| I _{DD} | Standby Current (OFF mode) | KEY floating L1 no load | | 5 | | uA |
| I _{OL} | Sink current of low level at V _{OL} =0.4V | L1 | | 4 | | mA |
| I _{OH} | Source current of high level at V _{OH} =2.6V | L1 | | 20 | | mA |
| T _{db} | De-bounce time | KEY | | 25 | | ms |
| V _{IH} | Input High Voltage | KEY | | | | V |
| V _{IL} | Input Low Voltage | KEY | | | | V |
| R _{PH} | Pull-high resistor | KEY | | 10 | | K |

PAD LOCATION AND DIMENSION OF CHIP

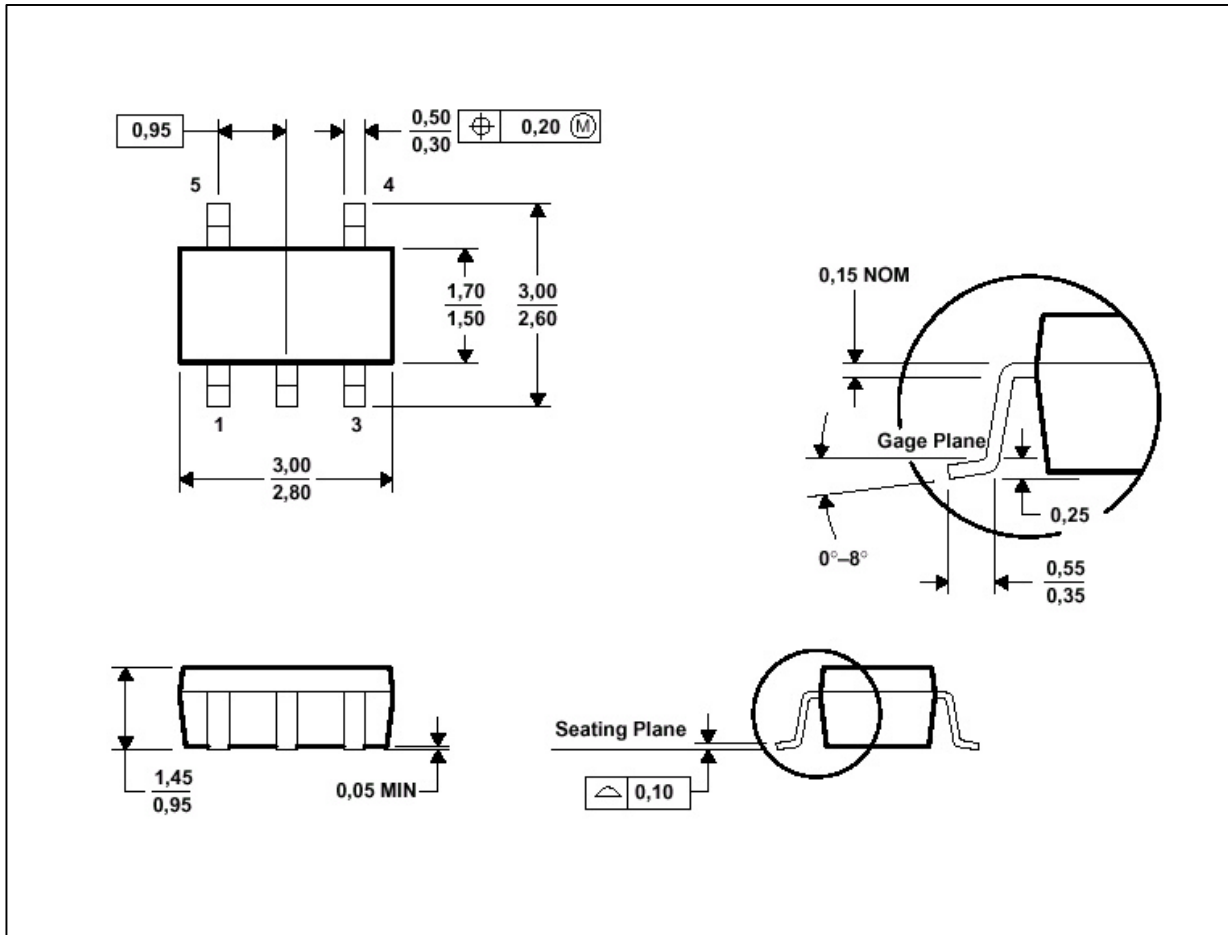
Die size X=464um Y=698um

| No | Name | X | Y |
|----|------|-------|-------|
| 01 | VDD | 369.4 | 607 |
| 02 | GND | 411 | 53 |
| 03 | L1 | 91 | 149.4 |
| 04 | CON | 91 | 393 |
| 05 | KEY | 91 | 569.4 |



MECHANICAL INFORMATION

PLASTIC SMALL-OUTLINE PACKAGE

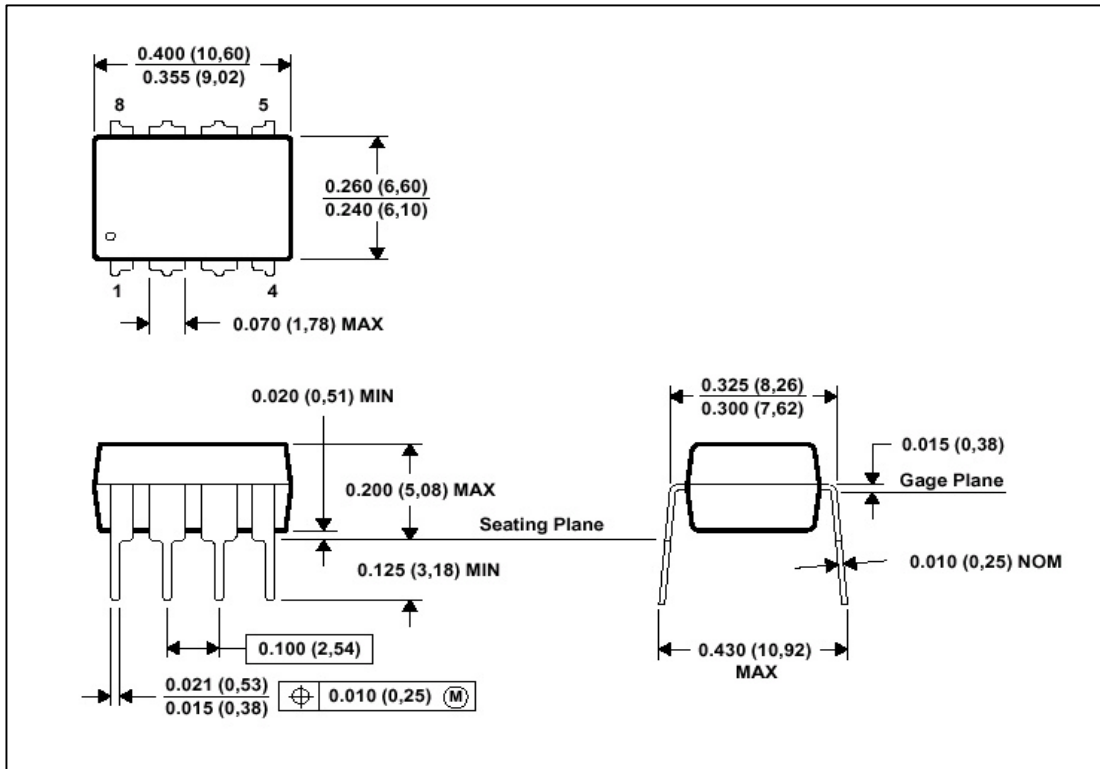


NOTE 1 : All linear dimensions are in millimeters.

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

NOTE 3 : Falls within JEDEC MO-178

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