

## FEATURE

1. CMOS process, high performance and stability
2. Extra low power consumption
3. Independent circuit to control switching and EL drive frequency circuit
4. DC to AC conversion by a few external components
5. Adjustable EL drive frequency
6. Adjustable switching frequency
7. Internal or external flash time selectable
8. Optional for one shot trigger with delay or toggle trigger with flash
9. Brightness can up to 120 Lux for 10cm<sup>2</sup> EL area

## DESCRIPTION

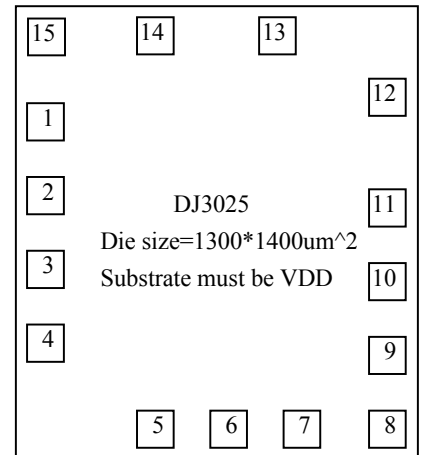
DJ3025 is designed for driving single EL with flash. Operate in DC 3V or 1.5V. A pair of single choke coil, 1 diode, 2 transistors and 1 resistor are necessary. DJ3025 support a pair of EL output pins to control 1 EL to flash or keep on for a short time which is selected by OP. Also DJ3025 can support build-in or external delay time (or flash period) selectable by DOP.

## Absolute Maximum Ratings

| Parameter             | Symbol | Min.    | Max.    | Unit |
|-----------------------|--------|---------|---------|------|
| Supply voltage        | VDD    | -0.3    | 5       | V    |
| Input/Output voltage  | Vi, Vo | VSS-0.3 | VDD+0.3 | V    |
| Storage temperature   | Tstg   | -40     | 125     | ° C  |
| Operating temperature | Top    | 0       | 70      | ° C  |

## Pad Assignment & Position

| Pin No. | Pin Name | X (um)   | Y (um)   |
|---------|----------|----------|----------|
| 1       | VDD      | 104.5    | 983.29   |
| 2       | TRG      | 104.5    | 774.29   |
| 3       | ROSC     | 104.5    | 565.29   |
| 4       | OSCI     | 104.5    | 356.29   |
| 5       | DLCK     | 445.72   | 104.5    |
| 6       | ELOSI    | 654.72   | 104.5    |
| 7       | ELOSO    | 863.72   | 104.5    |
| 8       | TEST     | 1,087.24 | 104.5    |
| 9       | OP       | 1,087.24 | 330.77   |
| 10      | DOP      | 1,087.24 | 539.77   |
| 11      | DCHG2    | 1,087.24 | 748.77   |
| 12      | PMP2     | 1,087.24 | 1,094.94 |
| 13      | VSS      | 793.65   | 1,253.45 |
| 14      | PMP1     | 408.32   | 1,253.45 |
| 15      | DCHG1    | 104.5    | 1,253.45 |



**Pad Description**

| Pad No. | Pad Name | I/O   | Description   |
|---------|----------|-------|---|
| 1       | VDD      | Power | Positive power supply   |
| 2       | TRG      | I     | Trigger input   |
| 3       | ROSC     | I     | Switching oscillator control pin, connect a resistor to VDD for reducing power consumption                  |
| 4       | OSCI     | I     | Switching oscillator input pin  |
| 5       | DLCK     | I     | Delay time or flash period control pin, connect a cap. to VSS for increasing the period                     |
| 6       | ELOSI    | I     | EL frequency's oscillator input pin, connect a cap. to VSS can slow down the freq.                          |
| 7       | ELOSO    | O     | EL frequency's oscillator output pin, connect a resistor between ELOSI and ELOSO can speed-up the frequency |
| 8       | TEST     | I/O   | Internal test pin   |
| 9       | OP       | I     | Option pin  |
| 10      | DOP      | I     | Option pin  |
| 11      | DCHG2    | O     | EL terminal 2 control output pin  |
| 12      | PMP2     | O     | EL terminal 2 control output pin  |
| 13      | VSS      | Power | Negative power supply   |
| 14      | PMP1     | O     | EL terminal 1 control output pin  |
| 15      | DCHG1    | O     | EL terminal 1 control output pin  |

**DC Electric Characteristics (VDD=3V, VSS=0V)**

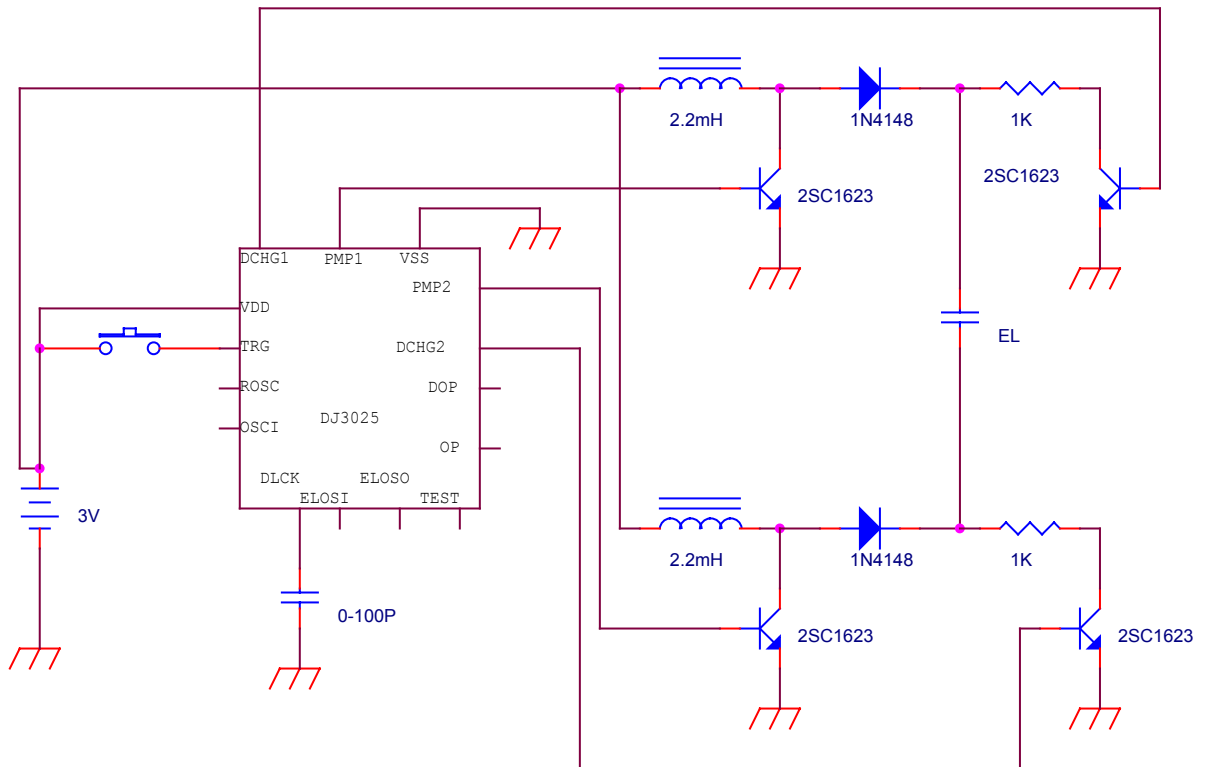
| Parameter            | Symbol | Test condition   | Min. | Typ. | Max. | Unit |
|----------------------|--------|------------------|------|------|------|------|
| Operating voltage    | VDD    |                  | 1.2  | 3    | 4.5  | V    |
| Stand-by current     | Istb   | VDD=3V           |      | 0.1  | 1    | uA   |
| Output drive current | Ioh    | PMP, Voh=0.8V    | 2.0  | 3.4  | 5.0  | mA   |
|                      |        | DCHG, Voh=0.8V   | 1.1  | 1.9  | 2.6  |      |
| Output sink current  | Iol    | PMP, Vol=3.0V    | 16   | 20   |      | mA   |
|                      |        | DCHG, Vol=3.0V   | 0.5  | 0.9  |      |      |
| OSC freq.            | fosc   | Build-in, VDD=3V |      | 18   |      | KHz  |
| EL freq.             | fEL    | Build-in, VDD=3V |      | 420  |      | Hz   |
| Delay time freq.     | fdlck  | Build-in, VDD=3V |      | 11   |      | KHz  |
| OSC freq.            | fELosc | Build-in, VDD=3V |      | 27   |      | KHz  |
| High input voltage   | Vih    | VDD=3V           | 2.2  |      |      | V    |
| Low input voltage    | Vil    | VDD=3V           |      |      | 0.6  | V    |

**Function select table**

| Pin | Function description  |
|-----|---|
| OP  | OPEN : toggle trigger with flash, OFF → EL flash with 1/8 duty □<br>VSS : one-shot trigger with delay a short time and then off   |
| DOP | OPEN : delay time(or flash period)independent with EL frequency, can be adjust by DLCK to increase the delay time or flash period<br>VSS : delay time(or flash period) dependent with EL frequency, when adjust the EL frequency ,the delay time(or flash period) will vary also. |

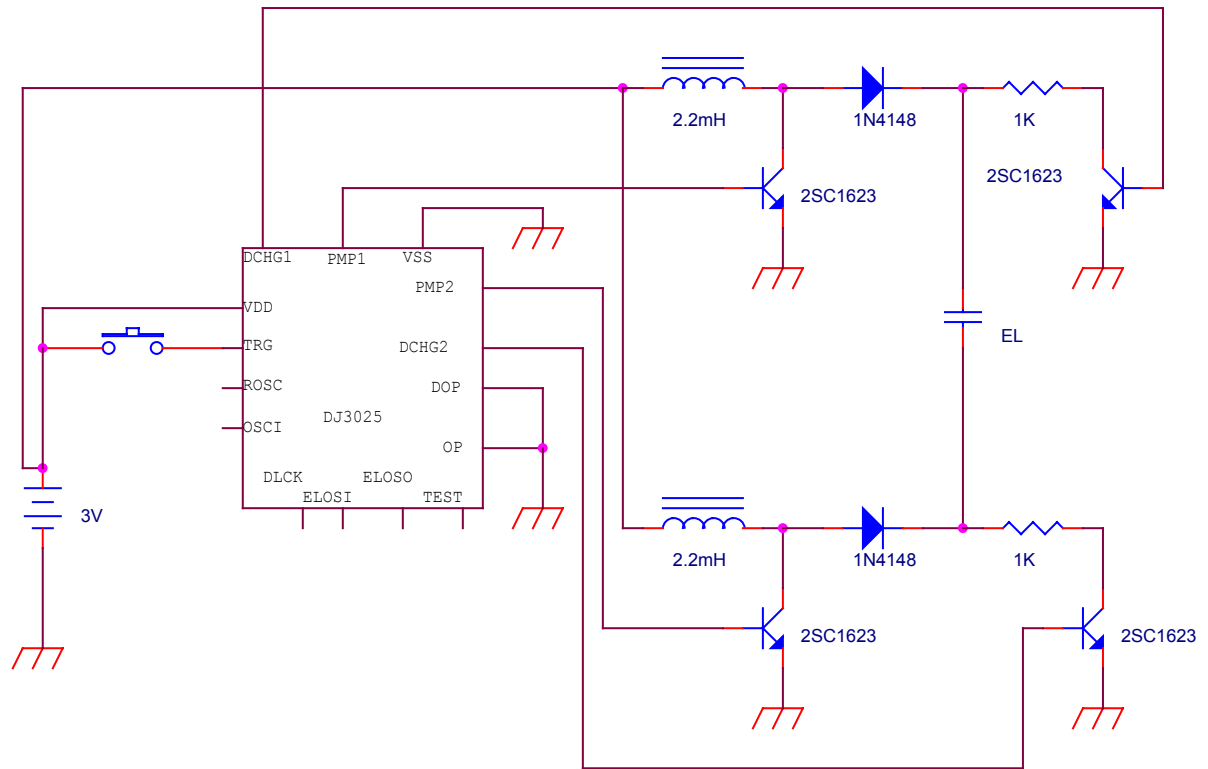
**Recommend Application Circuit 1**

**Toggle trigger input & external adjustable flash time**



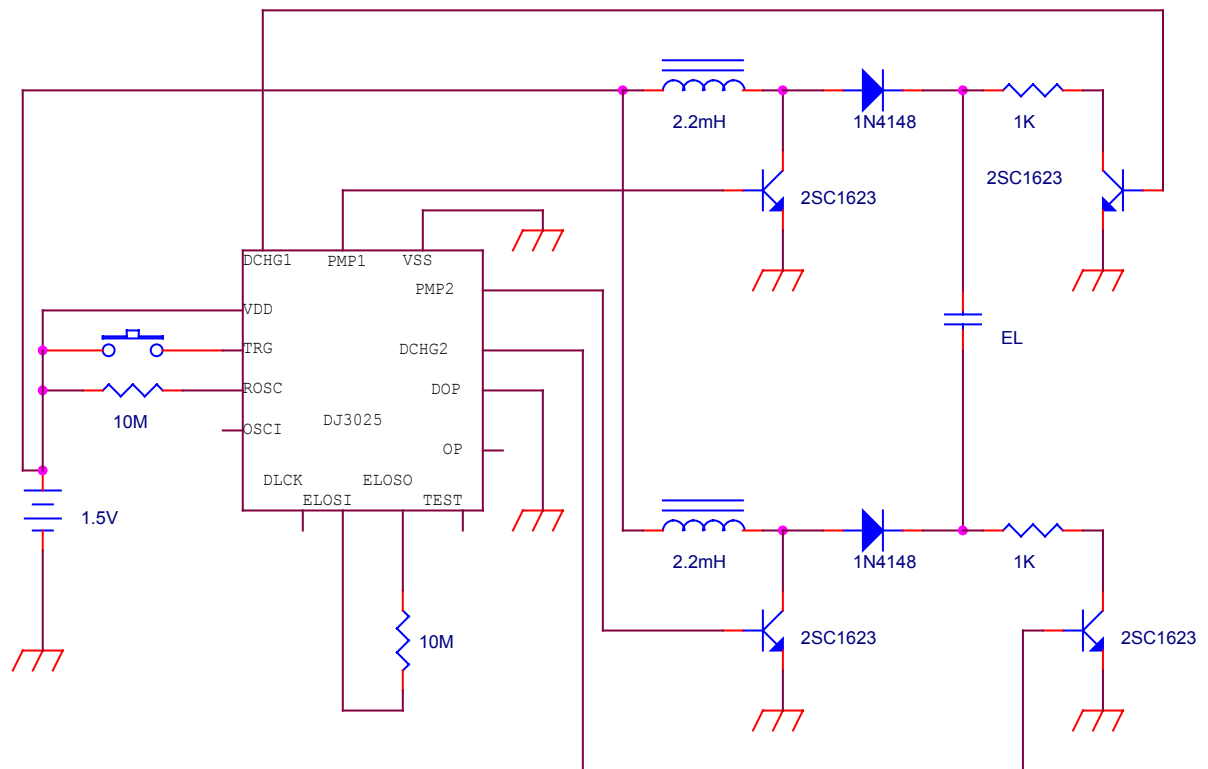
## Recommend Application Circuit 2

### One-shot trigger input & build-in delay time

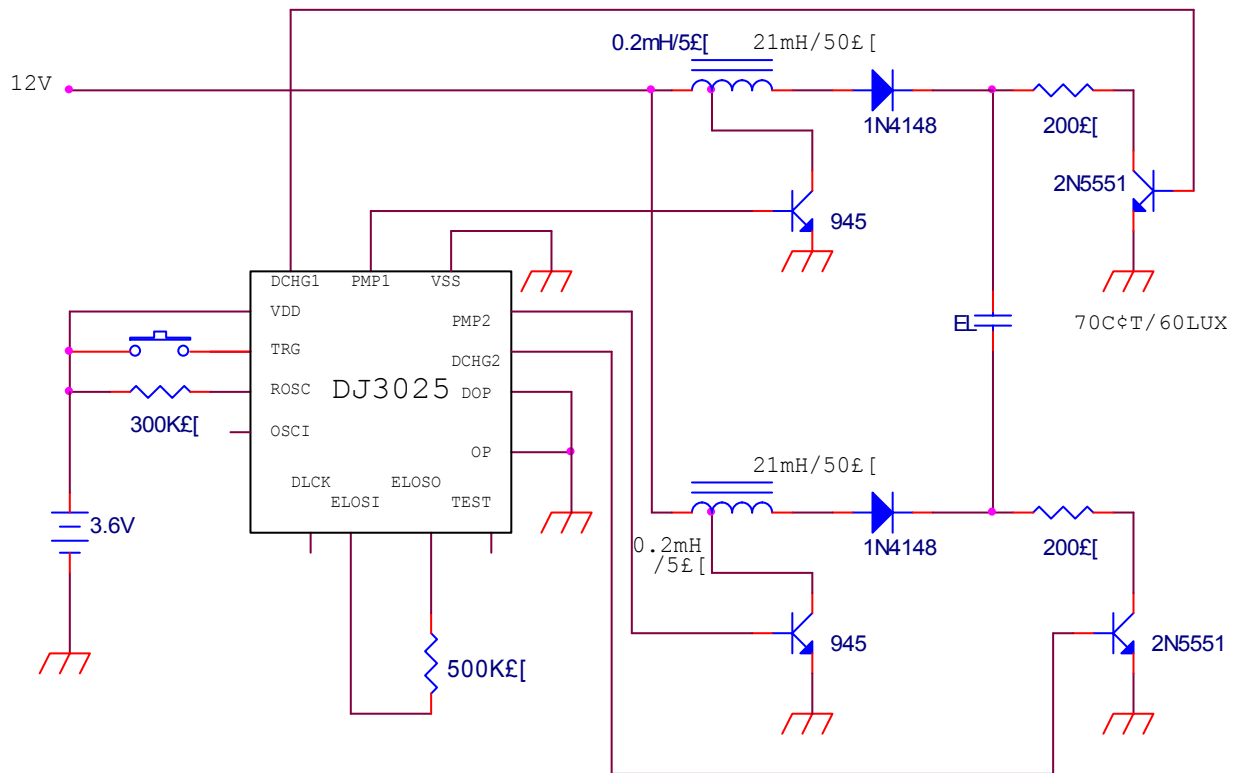


## Recommend Application Circuit 3

### Toggle trigger input with build-in flash time operating in 1.5V



## Recommend Application Circuit 4



## DJ3025 SOP-16 Package Form Pin Assignment

