## GENERAL DESCRIPTION

OB3626x is highly integrated Buck regulator with advanced features to provide high efficiency control and high precision constant current output for LED lighting applications.

OB3626x features variable fade-in time(gradual on) control. Through charging an external capacitor connected to FT pin, the fade-in time could be programmed.

The proprietary CC control scheme is used and high precision constant current regulation is realized.

OB3626x offers comprehensive protection coverage with auto-recovery features including LED open loop protection, LED short circuit protection, cycle-by-cycle current limiting, built-in leading edge blanking, VDD under voltage lockout (UVLO), over temperature protection (OTP), thermal foldback etc.

OB3626x is offered in DIP-8 & SOP-7 package.

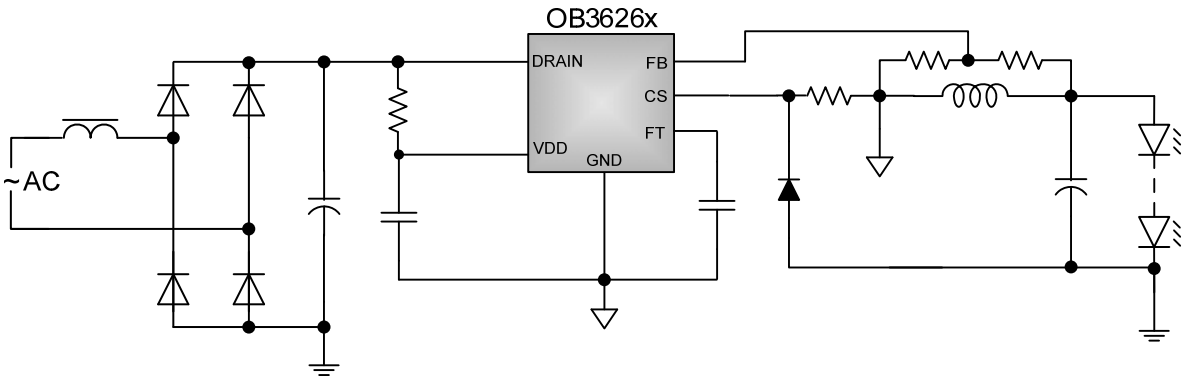
## FEATURES

- High precision constant current regulation at universal AC input
- Programmable fade-in time
- Low system cost and high efficiency
- Quasi-Resonant operation
- Programmable CC regulation
- Thermal foldback function to control LED output current
- Insensitive to inductance and line voltage variation
- LED short circuit protection
- LED open loop protection
- Cycle-by-cycle current limiting
- Built-in leading edge blanking (LEB)
- VDD under voltage lockout with hysteresis
- Over temperature protection (OTP)

## APPLICATIONS

- LED lighting

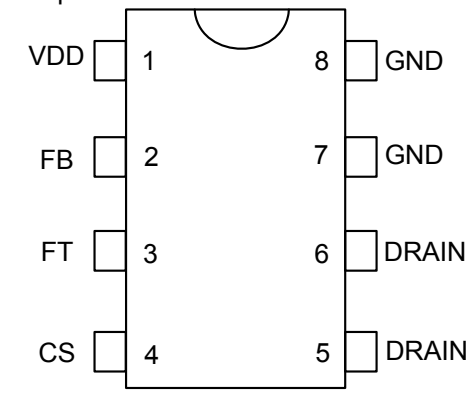
## TYPICAL APPLICATION



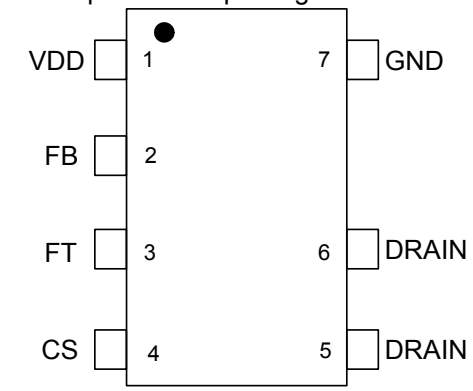
## GENERAL INFORMATION

### Pin Configuration

The pin map is shown as below.




Pin map for DIP-8 package




Pin map for SOP-7 package

### Package Dissipation Rating

| Package | RθJA (℃/W) |
|---|---|
| SOP7 | 95 |
| DIP8 | 75 |

### Recommended Operating Condition

| Symbol | Parameter | Range |
|---|---|---|
| VDD | VDD Supply Voltage | 8 to 16.6V |

### Absolute Maximum Ratings

| Parameter | Value |
|---|---|
| VDD Voltage | -0.3 to 20V |
| CS Input Voltage | -0.3 to 7V |
| FB Input Voltage | -0.3 to 7V |
| FT Input Voltage | -0.3 to 7V |
| DRAIN Voltage | -0.3 to 500V |
| Min/Max Operating Junction Temperature $T_J$ | -40 to 150 ℃ |
| Operating Ambient Temperature $T_A$ | -40 to 85 ℃ |
| Min/Max Storage Temperature $T_{stg}$ | -55 to 150 ℃ |
| Lead Temperature (Soldering, 10secs) | 260 ℃ |

**Note:** Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to absolute maximum-rated conditions for extended periods may affect device reliability.

### Ordering Information

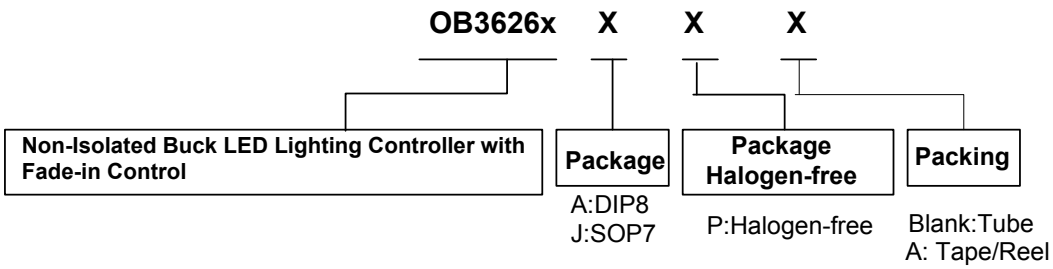
| Part Number | Description |
|---|---|
| OB3626NJP | 7Pin SOP, Halogen-free in Tube |
| OB3626NJPA | 7Pin SOP, Halogen-free in T&R |
| OB3626PJP | 7Pin SOP, Halogen-free in Tube |
| OB3626PJPA | 7Pin SOP, Halogen-free in T&R |
| OB3626PAP | 8Pin DIP, Halogen-free in Tube |

**Note:** All Devices are offered in Halogen-free Package if not otherwise noted.

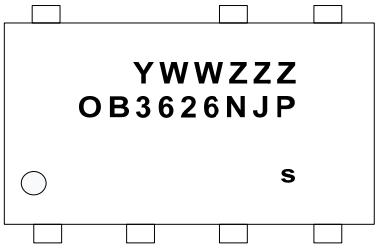
### Output Power Table

| Product | Condition | 90Vac~264Vac Input | 220Vac ±20% Input |
|---|---|---|---|
| OB3626NJP | Io≤0.25A | 12W | 24.5W |
| OB3626PJP | Io≤0.3A | 17W | 33.5W |
| OB3626PAP | Io≤0.35A | 17W | 27W |

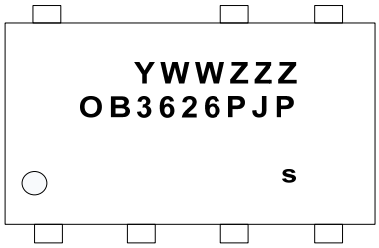
**Note:** Maximum practical continuous power in an open frame design with sufficient drain pattern as a heat sink, at 50℃ ambient and 60℃ temperature rise. Higher output power is possible with extra added heat sink, air circulation and decrease output current to reduce thermal resistance.



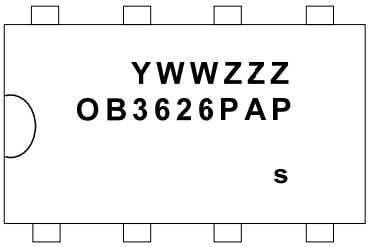
## Marking Information




Y: Year Code
WW: Week Code (01-52)
ZZZ:Lot Code
J: SOP7 (second row)
P:Halogen-free Package
S: Internal Code(Optional)




Y: Year Code
WW: Week Code (01-52)
ZZZ:Lot Code
J: SOP7 (second row)
P:Halogen-free Package
S: Internal Code(Optional)




Y: Year Code
WW: Week Code (01-52)
ZZZ:Lot Code
A: DIP8
P:Halogen-free Package
s: Internal Code(Optional)

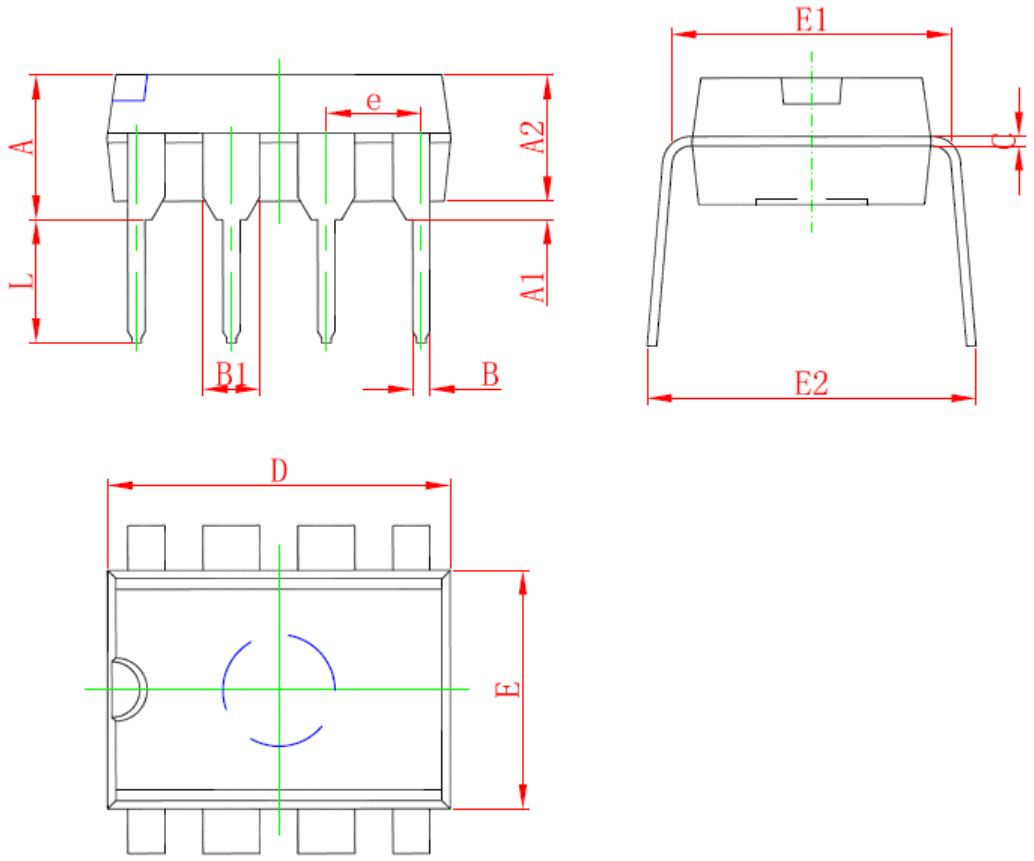
## Terminal Assignments For DIP8

| Pin Num | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VDD | P | Power supply input. |
| 2 | FB | I/O | The voltage feedback from output. Connected to resistor divider from output voltage. |
| 3 | FT | I/O | Fade-in time setting pin. Connect to an external capacitor to ground to set fade-in time. |
| 4 | CS | I/O | Current sensing terminal. |
| 5,6 | DRAIN | I/O | Drain of power MOSFET. |
| 7,8 | GND | P | Power Ground. |

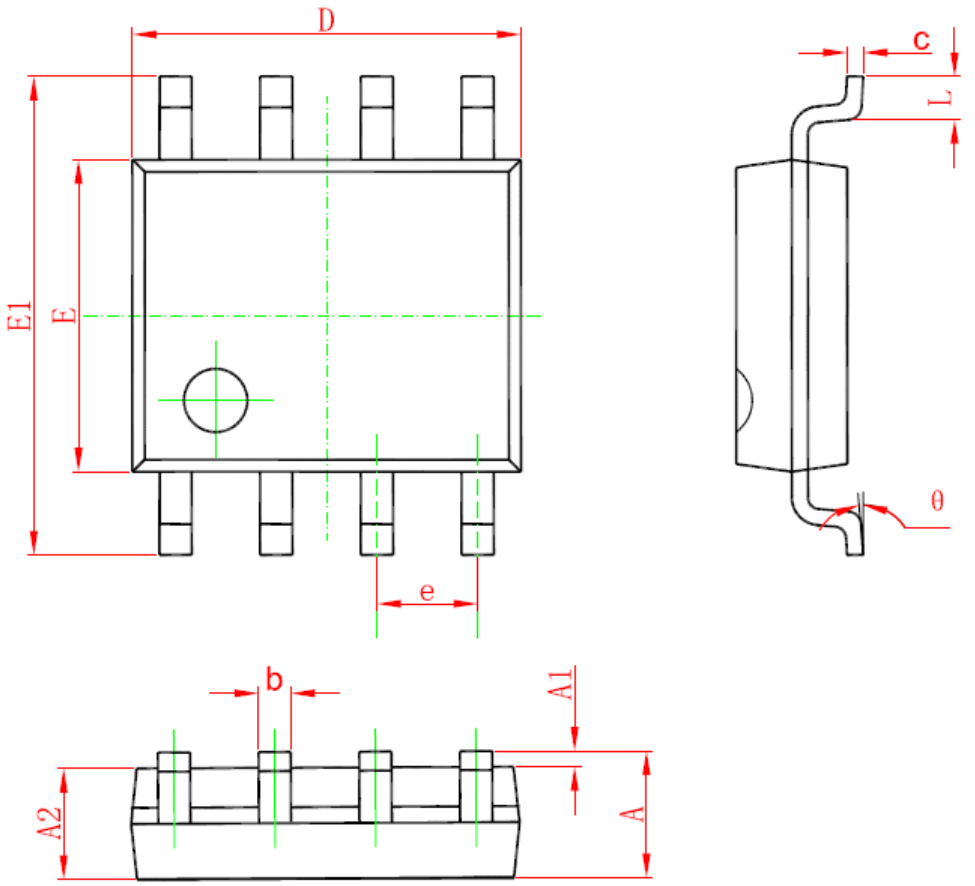
## Terminal Assignments For SOP7

| Pin Num | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VDD | P | Power supply input. |
| 2 | FB | I/O | The voltage feedback from output. Connected to resistor divider from output voltage. |
| 3 | FT | I/O | Fade-in time setting pin. Connect to an external capacitor to ground to set fade-in time. |
| 4 | CS | I/O | Current sensing terminal. |
| 5,6 | DRAIN | I/O | Drain of power MOSFET. |
| 7 | GND | P | Power Ground. |

## PACKAGE MECHANICAL DATA




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 3.710 | 5.334 | 0.146 | 0.210 |
| A1 | 0.381 | | 0.015 | |
| A2 | 2.921 | 4.953 | 0.115 | 0.195 |
| B | 0.350 | 0.650 | 0.014 | 0.026 |
| B1 | 1.524 (BSC) | | 0.06 (BSC) | |
| C | 0.200 | 0.360 | 0.008 | 0.014 |
| D | 9.000 | 10.160 | 0.354 | 0.400 |
| E | 6.096 | 7.112 | 0.240 | 0.280 |
| E1 | 7.320 | 8.255 | 0.288 | 0.325 |
| e | 2.540 (BSC) | | 0.1 (BSC) | |
| L | 2.921 | 3.810 | 0.115 | 0.150 |
| E2 | 7.620 | 10.920 | 0.300 | 0.430 |




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 1.350 | 1.750 | 0.053 | 0.069 |
| A1 | 0.050 | 0.250 | 0.002 | 0.010 |
| A2 | 1.250 | 1.650 | 0.049 | 0.065 |
| b | 0.310 | 0.510 | 0.012 | 0.020 |
| c | 0.100 | 0.250 | 0.004 | 0.010 |
| D | 4.700 | 5.150 | 0.185 | 0.203 |
| E | 3.800 | 4.000 | 0.150 | 0.157 |
| E1 | 5.800 | 6.200 | 0.228 | 0.244 |
| e | 1.270 (BSC) | | 0.050 (BSC) | |
| L | 0.400 | 1.270 | 0.016 | 0.050 |
| θ | 0° | 8° | 0° | 8° |

## IMPORTANT NOTICE

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