

## GENERAL DESCRIPTION

OB3621x is highly integrated buck regulator with advanced features to provide high efficiency control and high precision constant current output for LED lighting applications.

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

OB3621x 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.

OB3621x is offered in SOP-8 package.

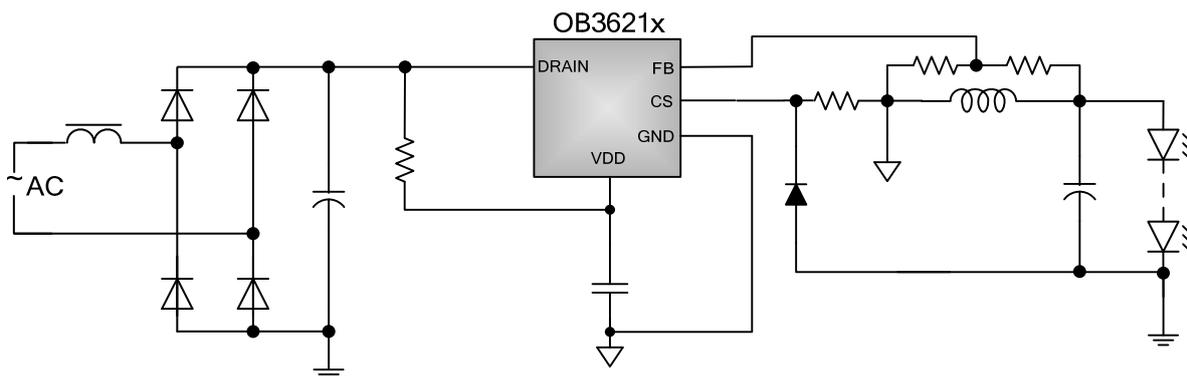
## FEATURES

- High precision constant current regulation at universal AC input
- 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

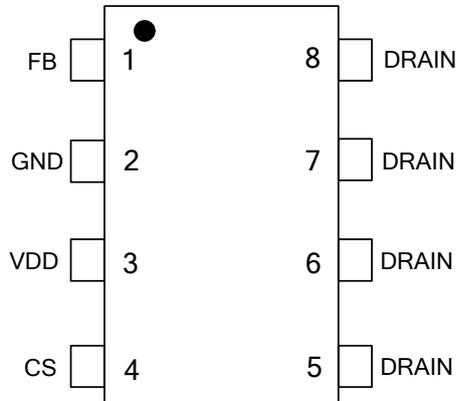
## TYPICAL APPLICATION



### GENERAL INFORMATION

#### Pin Configuration

The pin map is shown as below.



#### Ordering Information

Part Number	Description
OB3621MCP	8Pin SOP, Pb free in Tube
OB3621MCPA	8Pin SOP, Pb free in T&R
OB3621NCP	8Pin SOP, Pb free in Tube
OB3621NCPA	8Pin SOP, Pb free in T&R
OB3621PCP	8Pin SOP, Pb free in Tube
OB3621PCPA	8Pin SOP, Pb free in T&R
OB3621NCP-F	8Pin SOP, Pb free in Tube
OB3621NCPA-F	8Pin SOP, Pb free in T&R
OB3621PCP-F	8Pin SOP, Pb free in Tube
OB3621PCPA-F	8Pin SOP, Pb free in T&R
OB3621TCP	8Pin SOP, Pb free in Tube
OB3621TCPA	8Pin SOP, Pb free in T&R

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

#### Output Power Table

Product	Condition	90Vac~264Vac Input	220Vac±20% Input
OB3621MCP	$I_o \leq 0.2A$	8W	13.5W
OB3621NCP	$I_o \leq 0.25A$	12W	24.5W
OB3621PCP	$I_o \leq 0.3A$	17W	33.5W
OB3621TCP	$I_o \leq 0.3A$	23.9W	37.2W

Product	Condition	90Vac~132Vac Input
OB3621NCP-F	$I_o \leq 0.25A$	14W
OB3621PCP-F	$I_o \leq 0.3A$	19W

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

#### Package Dissipation Rating

Package	RθJA (°C/W)
SOP8	90

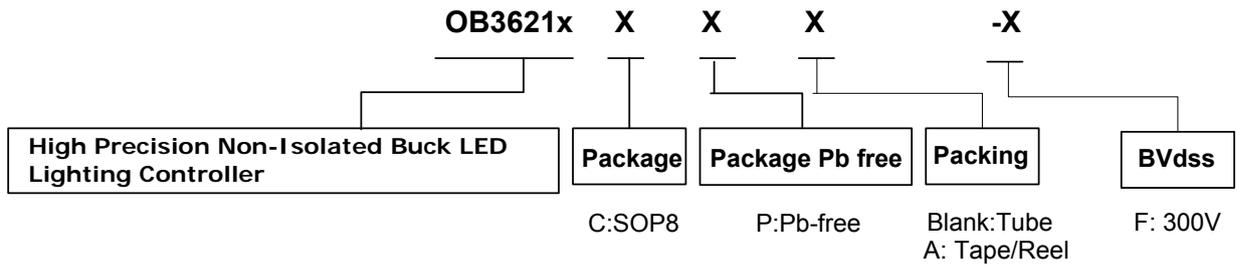
#### Absolute Maximum Ratings

Parameter	Value	
VDD Voltage	-0.3 to 20V	
CS Input Voltage	-0.3 to 7V	
FB Input Voltage	-0.3 to 7V	
DRAIN Voltage	OB3621M/N/P/T	-0.3 to 500V
	OB3621N/P-F	-0.3 to 300V
Min/Max Operating Junction Temperature T <sub>J</sub>	-40 to 150 °C	
Operating Ambient Temperature T <sub>A</sub>	-40 to 85 °C	
Min/Max Storage Temperature T <sub>stg</sub>	-55 to 150 °C	
Lead Temperature (Soldering, 10secs)	260 °C	

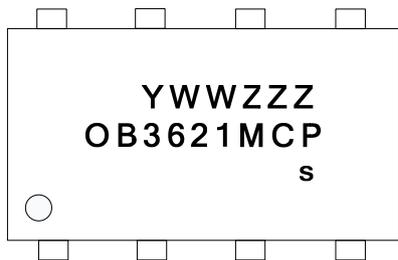
**Note:** Stresses beyond those listed under “absolute maximum ratings” may cause permanent damage to the device. These are stress ratings only, functional operation of the device at these or any other conditions beyond those indicated under “recommended operating conditions” is not implied. Exposure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

#### Recommended Operating Condition

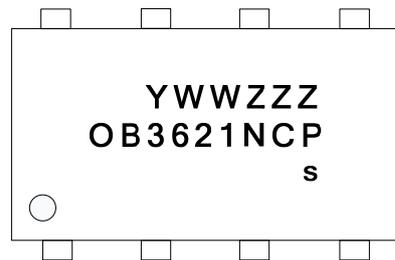
Symbol	Parameter	Range
VDD	VDD Supply Voltage	8 to 12V



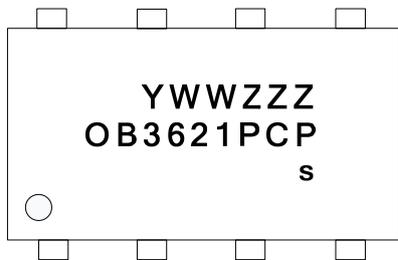
### Marking Information



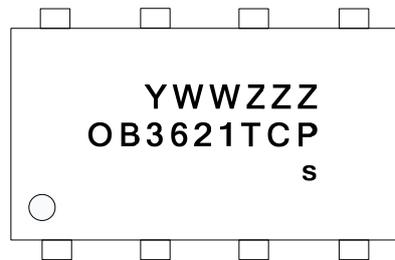
Y: Year Code  
 WW: Week Code (01-52)  
 ZZZ: Lot Code  
 C: SOP8  
 P: Pb-free Package  
 S: Internal Code(Optional)



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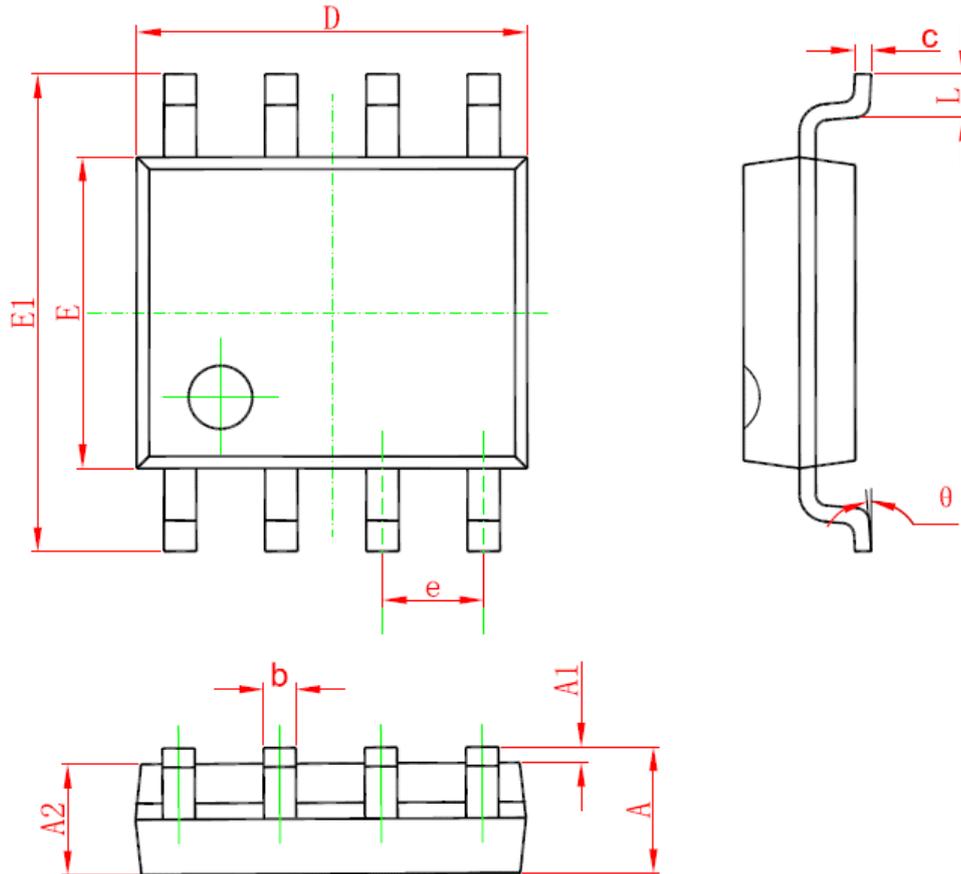
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**PACKAGE MECHANICAL DATA**

8-Pin Plastic SOP



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°

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