

# XZ1017B



## 30V Linear LED Driver with adjustable current

### DESCRIPTION

The XZ1017B is an ultra-low operating voltage LED driver. It is specifically designed for low input voltage of the multi LED string driver. It has excellent constant current accuracy of 3%, and good temperature characteristics, which can assure the stability of chip and power system. When the whole lamp plate temperature is too high, the chip will enter the OTP mode to make the temperature fall down. The current accuracy of the chip is much higher than that of the normal LED driver.

XZ1017B's application circuit is very simple, just a small capacitor and an output setting resistor, which makes it almost zero cost.

XZ1017B is available in TO-252 package, which can be packed on a very small PCB board with the LED strings.

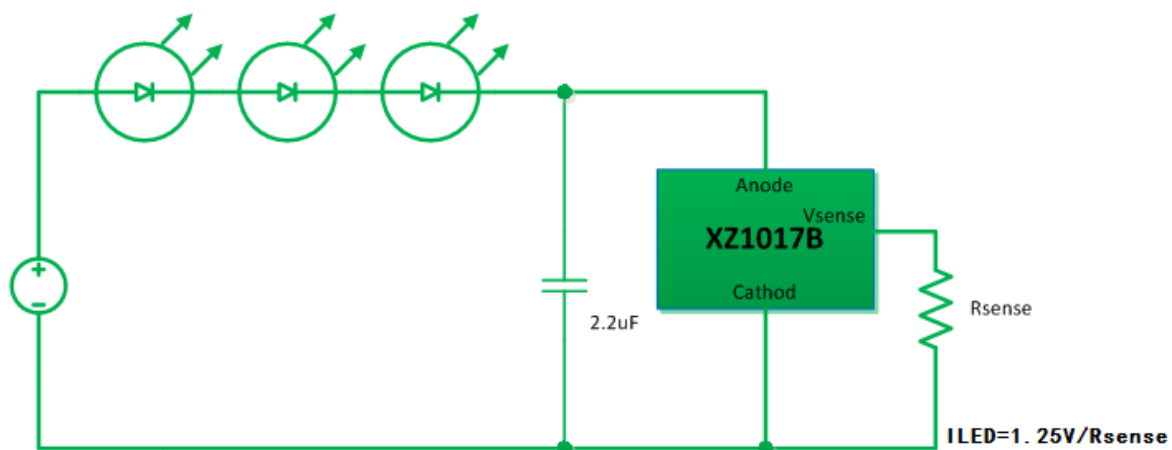
### APPLICATION

- General LED lighting
- Interior lighting、 pilot light
- Advertising panels
- Decorative LED lights

### FEATURES

- Range of operation input voltage: 3 – 30V
- LED recommended drive current: Max.0.5A
- LED feedback terminal voltage: 1.25V
- Available in TO-252 package

### TYPICAL APPLICATION CIRCUIT



### ORDERING INFORMATION

PACKAGE **TO252**

PRODUCTID **XZ1017**

**2500**pcs/Reel

## PACKAGE / MARKING / PIN CONFIGURATION



Package: TO252  
 JW12: Product ID  
Y: Number of Year  
WW: Number of Week

## ABSOLUTE RATING

(note: Exceeding or exposure to these absolute rating limits may damage the device permanently or affect its reliability)

ANODE voltage .....	-0.3V to 36V
VSENSE voltage .....	-0.3V to 1.25V
ANODE to CATHODE current .....	set by Rsense
Operating temperature range .....	-40°C to 85°C
Storage temperature range .....	-55°C to 150°C
Thermal Resistance	$\theta_{JA}$ $\theta_{JC}$
TO252.....	105.....12..... °C/W

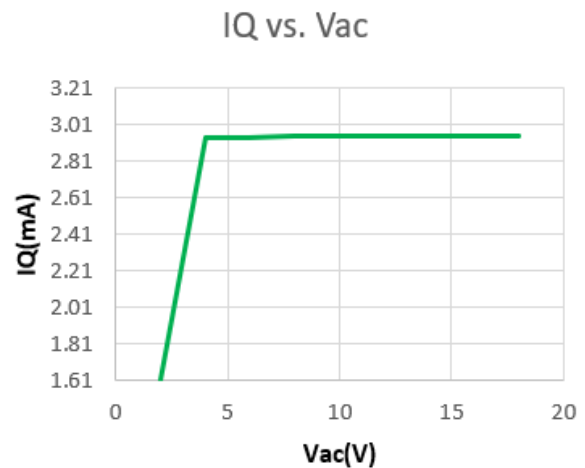
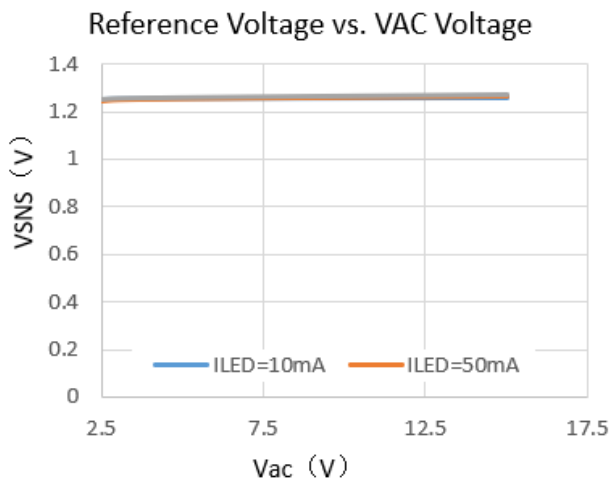
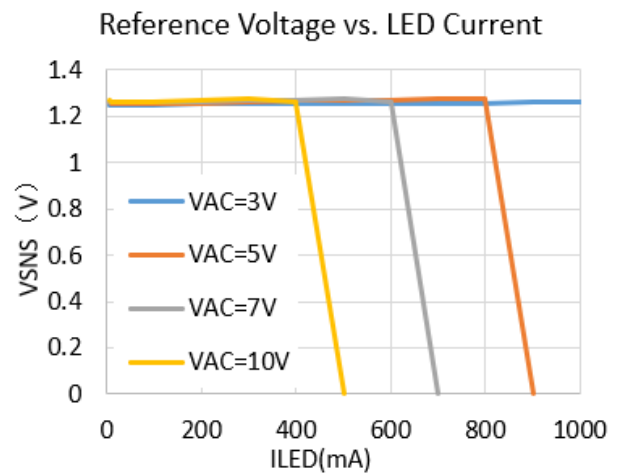
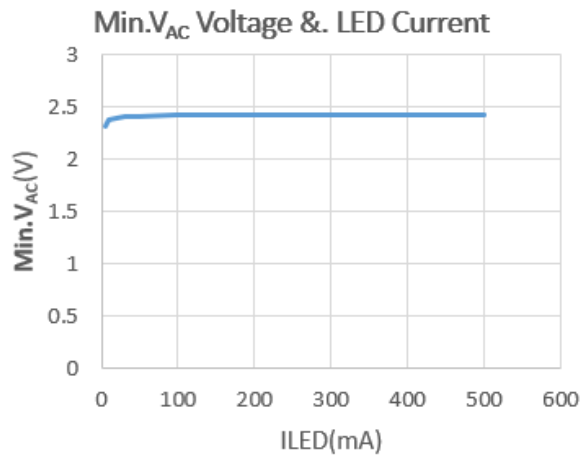
## PIN DESCRIPTION

PIN No. TO252	PIN NAME	DESCRIPITON
3	Anode	Connect to input voltage, this pin can withstand voltage as high as 15V. Please connect a 2.2uF MLCC capacitor from Anode to Cathod.
1	Cathode	The "Ground" pin of this device.
2	Vsense	The sense voltage pin to set the driving current by connecting a sense resistor (Rsense) between this pin and "Cathode" pin. The sense voltage is 1.25V, and current is set by 1.25/Rsense. For instance, if Rsense is 10ohm, one can get a 125mA current.

## ELECTRICAL CHARACTERISTICS

Symbol.	Description	Condition	Min	Typ	Max	Unit
$V_{AC}$	Voltage across Anode and Cathode	$I_{LED}=1000mA$	3		36	V
$I_{AC}$	LED Driving Current	$V_{AC}=3V, I_{set}=20mA$	-3	0	+3	%
$V_{SNS}$	Sense voltage at Vsense Pin	$V_{AC}=3V, I_{set}=20mA$	1.21	1.25	1.29	V

## CONSTANT CURRENT CHARACTERISTICS



## APPLICATION INFORMATION – Thermal consideration

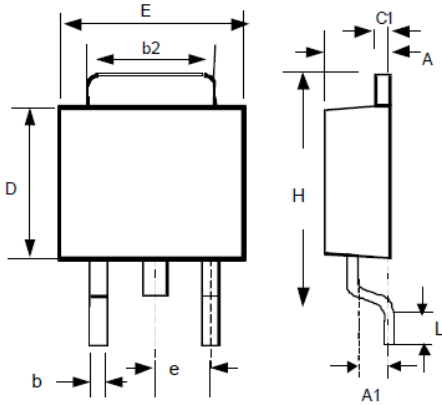
As the XZ1017B is a linear power supply, with high input voltage, the power dissipation should be considered. For example, if the set current is 20mA, when the  $V_{AC}$  is 5V, the module dissipation

$$P_D = V_{AC} \times I_{SET} \Rightarrow P_D = 0.1W$$

If the  $V_{AC}$  is 10V, and set current is 300mA, then power dissipation is as high as 3W, exceeding the power limit of the TO252 package. And thus, the TO252 package is then recommended for higher power condition. Though XZ1017B has internal thermal protection function, an extreme high power working condition (>2W) is not recommended. If one needs XZ1017B to work under such high power condition, please contact your dealer or Xesi-power. A different package with heat dissipation capability may be suitable.

**PACKAGE OUTLINE**
**TO252**

(Unit:mm)



SYMBOL	MIN	MAX
A	2.19	2.38
A1	1.02	1.27
b	0.64	0.88
b2	5.21	5.46
C1	0.46	0.58
D	5.33	5.59
E	6.35	6.73
e	2.28 (TYP.)	
H	9.40	10.42
L	0.51	-