

**Features**

- Adaptive current ripple eliminating
- Adjustable LED current ripple range
- Settable LED voltage maximum

**General Description**

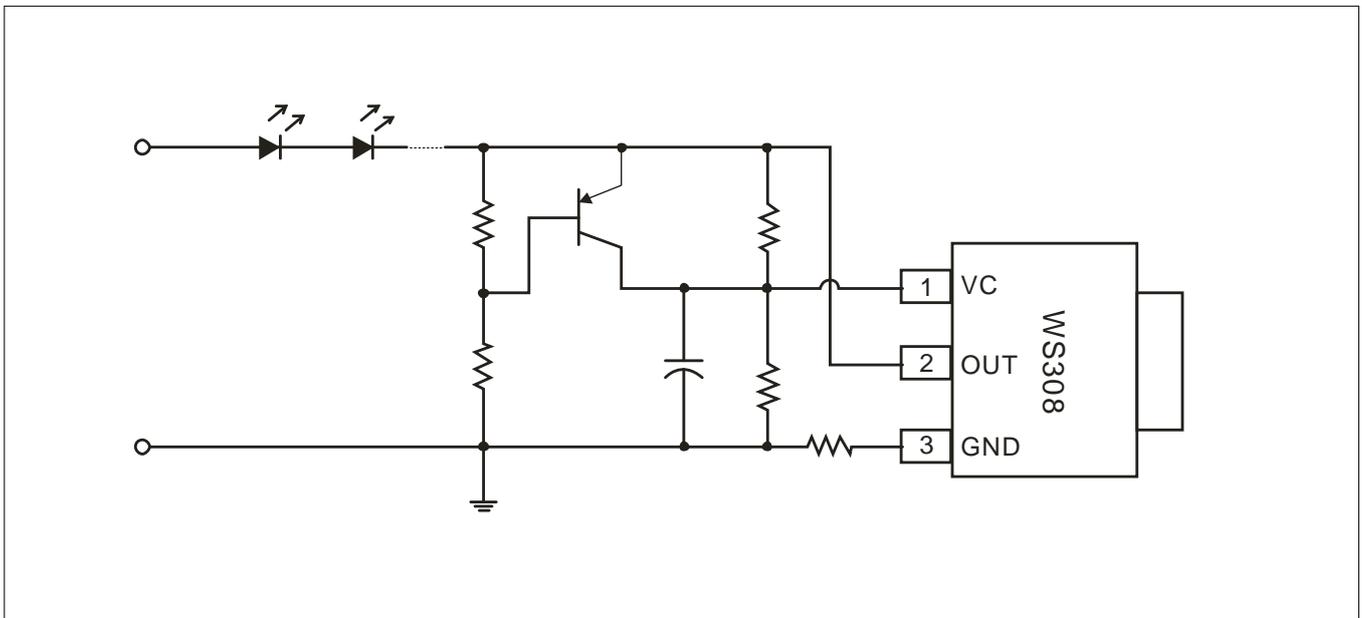
WS308 is applied for LED lighting driver, can eliminate the current ripple produced by preceding driver.

With WS308 and preceding high power factor constant current control circuit, can realize no-stroboscopic high power factor LED constant current solution.

**Applications**

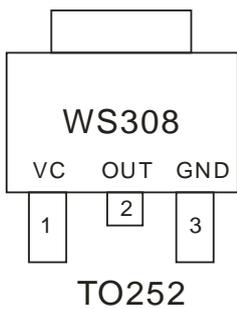
- LED lighting

**Typical Application Circuit**



**Pin Definition and Device Marking**

WS308 is available in TO252, as shown below:



### Pin Function Description

Pin Name	Pin Number	Function Description
VC	1	Ripple eliminating circuit control
OUT	2	Ripple eliminating circuit output
GND	3	Ground.

### Ordering Information

Package	IC Marking Information	Purchasing Device Name
TO-252, Pb-free	WS308DP	WS308DP

**Note:** Maximum practical continuous power in an Adapter design with sufficient drain pattern as a heat sink, at 50°C ambient.

### Absolute Maximum Ratings

Symbol	Parameter	Value	Unit
V <sub>OUT</sub>	OUT pin voltage	-0.3~20	V
VC	VC pin voltage	-0.3~10	V
T <sub>A</sub>	Operation temperature	-20~125	°C
T <sub>stg</sub>	Storage temperature	-40~150	°C
R <sub>θja</sub>	Thermal resistance	65	°C/W

**Note:** Stresses above 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 in the Recommended Operating Conditions section are not implied. Exposure to absolute maximum-rated conditions for extended periods may affect device reliability.

### Electrical Characteristics (T<sub>A</sub>=25°C, if not otherwise noted)

Symbol	Parameter	Test condition	SPEC			Unit
			Min	Typ	Max	
I <sub>OUT</sub>	OUT pin output current			0.3		A
V <sub>OUT</sub>	OUT Pin saturation voltage	LED current is 160mA	0.3	0.45	0.65	V
I <sub>CLMT</sub>	OUT Pin limit current				1	A

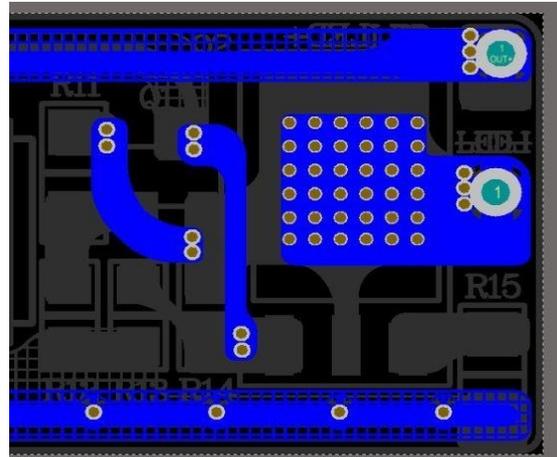
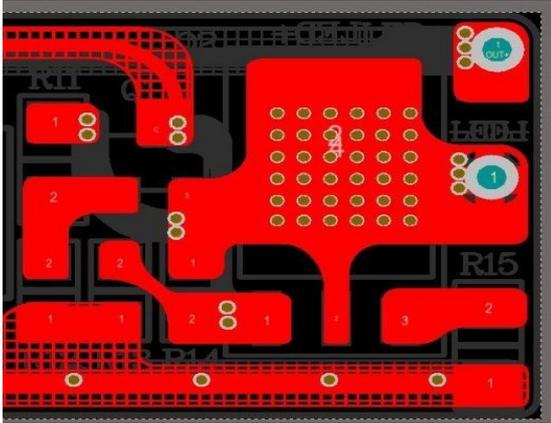
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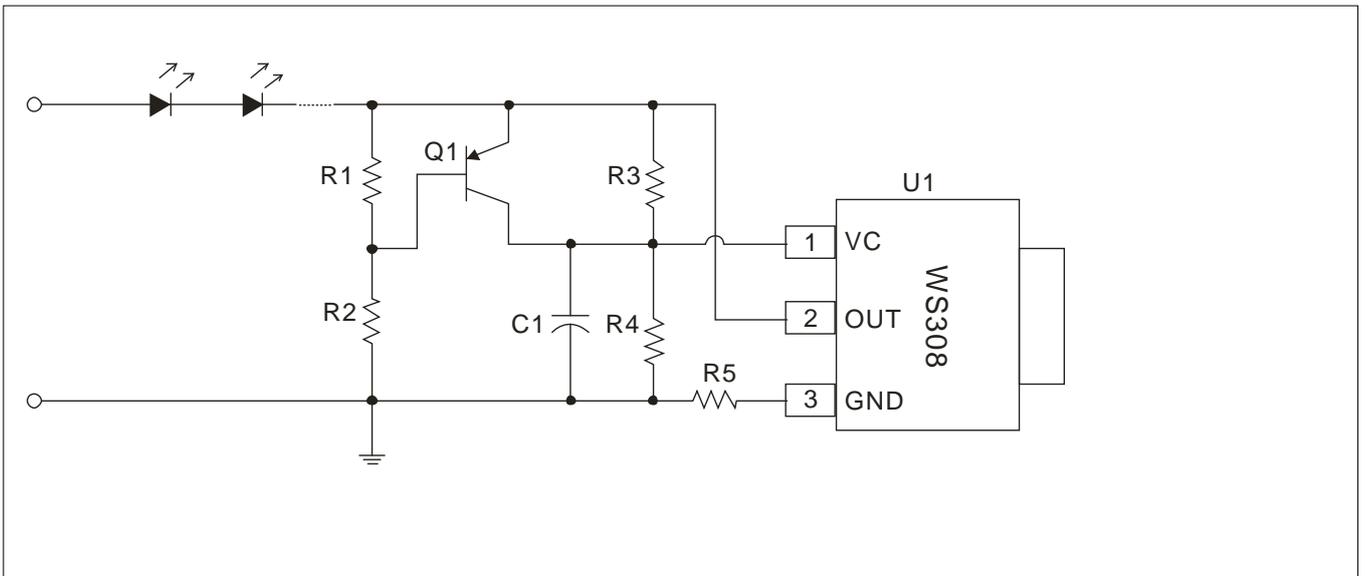
**PCB layout notes for use**

**Copper layout for better heat dissipation, adding via hole :**



- ◆ WS308 OUT Pin need copper layout for better heat dissipation (If the Two-sided board, the Copper is needed both top and bottom layer) ,can made by interwoven fibers or linear copper clepsydra, for reducing the chip temperature and enhancing system performance.
- ◆ Two-sided board PCB heat dissipation, the via hole between top and bottom layer should be as many as possible for heat dissipation requirement.

**Typical Application Solution**



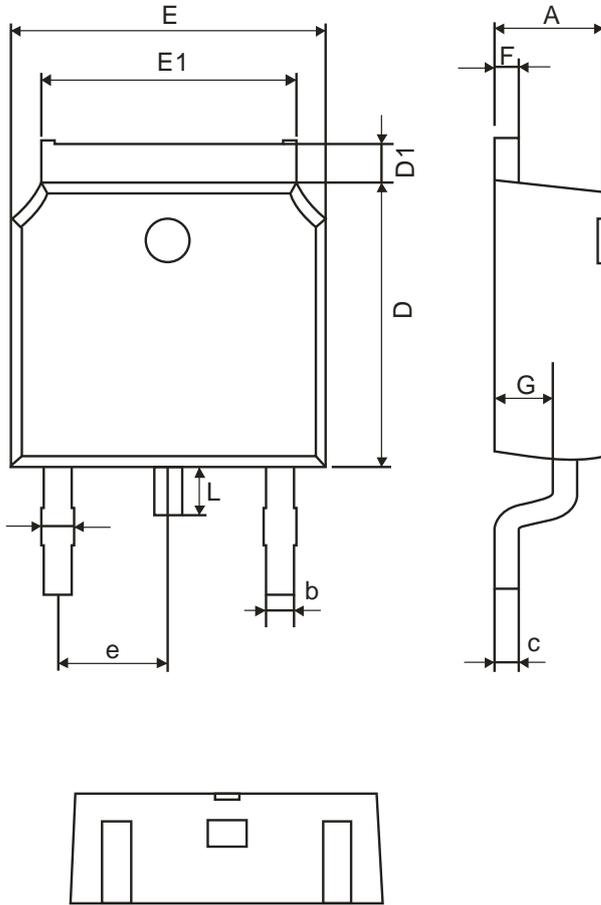
**BOM list**

Station	Parameter	Station	Parameter	Station	Parameter
R1	300R/0805	R4	10K/0805	C1	100uF/10V
R2	5.1K/0805	R5	2.2R/1206	U1	WS308
R3	10K/0805	Q1	S8550		

**Package Information**

**TO-252 Package Information**

Unit:mm



符号 symbol	MIN	MAX
A	2.1	2.5
b	0.66	0.86
c	0.458	0.558
D	5.9	6.3
D1	0.702	1.002
E	6.4	6.8
E1	5.12	5.52
e	2.286TYP	
F	0.458	0.558
G	0.9	1.1
L	0.6	1.0
L1	2.548	3.148

**NOTE:**

- 1.We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
- 2.Please do not exceed the absolute maximum ratings of the device when circuit designing.
- 3.Winsemi Microelectronics Co., Ltd reserved the right to make changes in this specification sheet and is subject to change without prior notice.

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