Pb Free Plating Product

SR8115

Single Channel LED Current Regulator Driver IC for T5/T8

General Description

LED CRD IC SR8115 is a single channel LED constant current driver which integrates patented constant current setting and control technology. The output current designed by external REXT is 5mA~60mA and it is invariant to OUT output voltage change, which has better constant current performance. It is a low cost circuit with simple circuit and less external components.

output current formula

$$Iout = \frac{V_{REXT}}{R_{EXT}} = \frac{0.6V}{R_{EXT}}$$

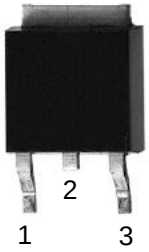
Features

- Patented constant current control technology
- Output current adjustable with range 5mA~60mA
- Inter-chip output current deviation <±4%
- Over temperature protection
- Sharing PCB board with LED lamps
- Excellence EMI performance
- Simple circuit and low cost
- Package：TO-252-2L

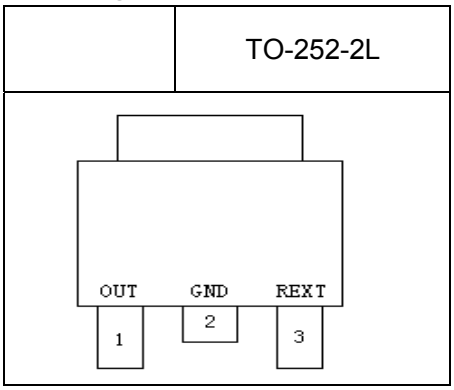
Applications

- T5/T8 LED tubes；
- LED street lighting；
- LED bulb lamp，LED ceiling lamp；

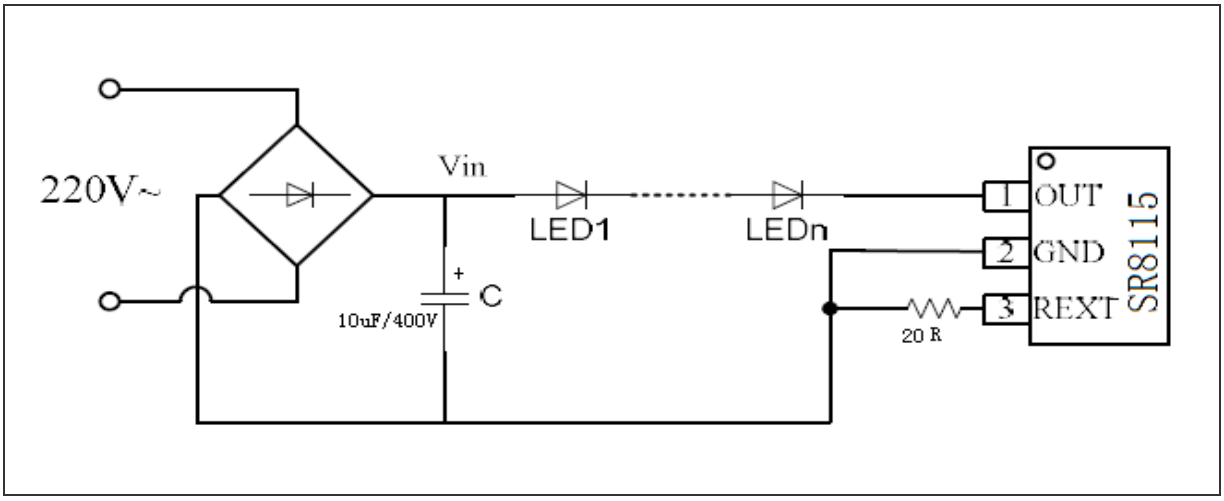
TO-252-2L/DPAK-2L



Pin Diagram



Typical Schematic Circuit Diagram



Pin Description

TO-252-2L/DPAK-2L		
Name	No.	Pin Description
OUT	1	Power supply input and constant current output
GND	2	Ground
REXT	3	Output current setting port

Absolute Maximum Parameter

Unless otherwise stated, the ambient temperature is 25°C.

Symbol	Description	Range	Unit
V_{OUT}	Voltage of OUT	-0.5 ~ +450	V
I_{OUT}	Current of OUT	1~ 60	mA
T_{OPT}	Operating temperature	-40 ~ +120	°C
T_{STG}	Storage temperature	-50 ~ +150	°C
V_{ESD}	HBM	2	KV

Thermal Resistor Parameter

Symbol	Description		TO-252-2L	Unit
R_{THJA}	Thermal resistor(1)		74.9	℃/W

Note (1): The chip needs to be welded to the PCB with 200 mm^2 cooling copper foil, and the thickness of the copper foil is 35um.

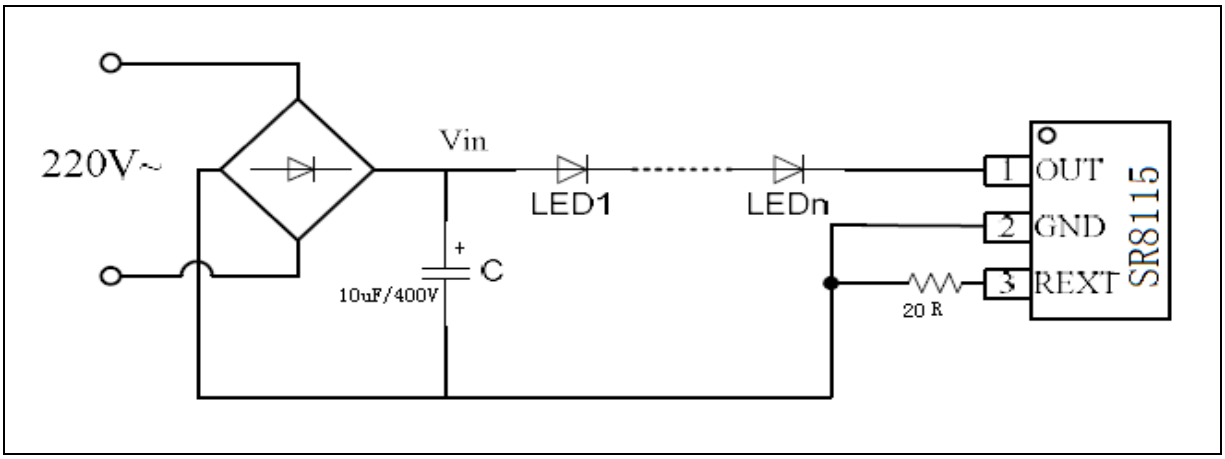
Electric Operating Parameter

Unless otherwise stated, the ambient temperature is 25°C.

Symbol	Description	Condition	Min.	Typ.	Max.	Unit
V_{OUT_MIN}	Input voltage of OUT	IOUT = 30mA	-	-	6.5	V
V_{OUT_BV}	Withstand voltage of OUT	IOUT = 0	450	-	-	V
I_{OUT}	Output current	-----	5	-	60	mA
I_{DD}	Quiescent current	VOUT = 10V，REXT is opened	-	0.16	0.25	mA
V_{REXT}	Voltage of REXT	VOUT = 10V	-	0.6	-	V
D_{IOUT}	Error between chips and chips of IOUT	IOUT = 20mA	-	±4	-	%
T_{SC}	Initial point of the negative temperature compensation of the current	-	-	110	-	℃

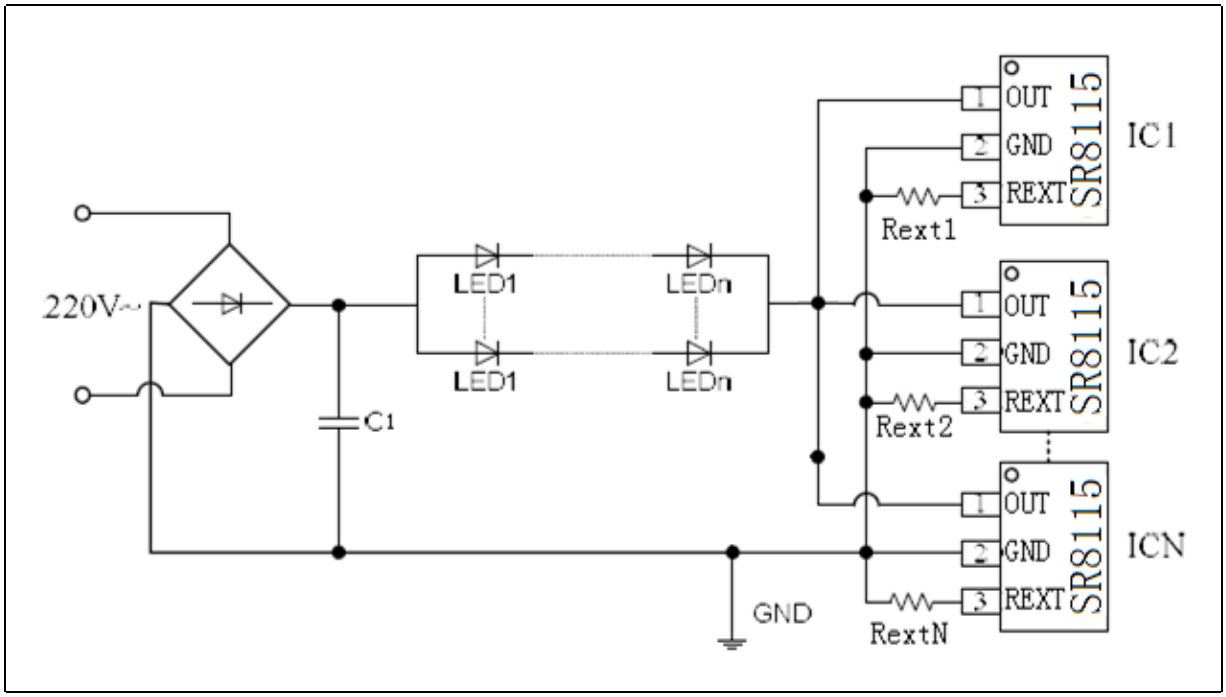
- The Series Connection of the Chip in the LED Tube

The chip is connected to the GND, the middle of the LED lamp or ahead of the LED lamp according to different application.



- Parallel Application of the Chip

Schematic diagram of the parallel application circuit



Select the number of the parallel chips according to the number of the parallel LED lamps and the operating current of the LED lamp, the resistance of Rext1~RextN can be set to be the same or to be different.

In the parallel application of the chip, when the value of the resistor Rext is different, the constant current threshold voltage of the complete system is the maximal threshold voltage of the parallel chip.

