

# DIO8210

## Adaptive 100/120Hz Current Ripple Remover

### Max LED Current $\leq 350\text{mA}$

### Features

- Wide input voltage range from 10V up to 85V
- Internal 85V power MOSFET
- Adaptive 100/120Hz current ripple remover for dimmable LED luminaries with wide input current range from 50mA up to 350mA
- LED voltage low to 0.4V when LED current is 350mA
- Multiple protection features:
  - ✧ Reliable LED voltage limit
  - ✧ Reliable LED current limit
  - ✧ Reliable Short LED Protection (SLP)
  - ✧ Hot-plug protection
  - ✧ Over Temperature Protection (OTP)
- EP-SOIC8 package

### Descriptions

DIO8210 is used to drive a LED string ( $\leq 75\text{V}$ ), and remove the 100/120Hz current ripple on AC/DC power by a capacitor between VC and GND.

If the voltage on LED pin exceeds 6V, the current ripple removing function is disabled, which could help limit the power dissipation on chip. DIO8210 provides short protection, open protection and HOT-PLUG protection.

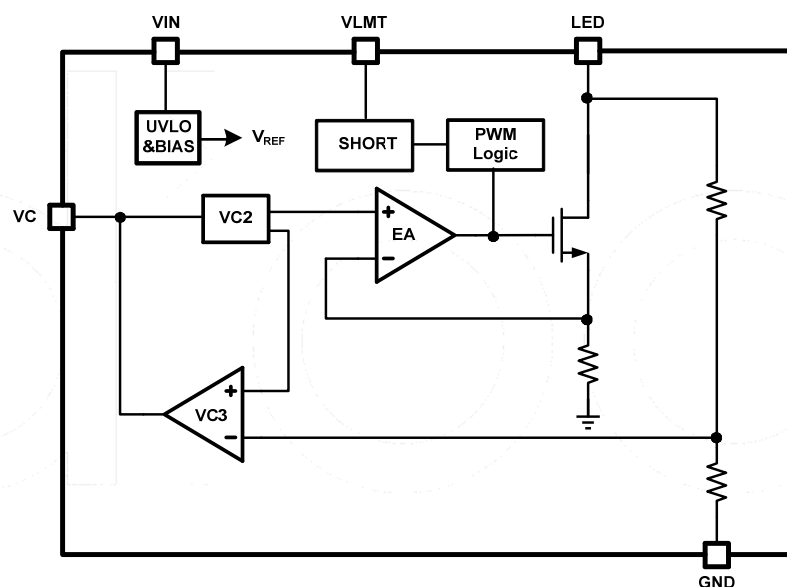
The maximum LED current is internally limited at 0.5A.

DIO8210 provides over thermal protection. When the OTP is triggered, the internal MOSFET shuts down until the temperature decreases to 120°C.

### Applications

- Flickerless LED lighting

### Block Diagram



## Ordering Information

Order Part Number	Top Marking		T <sub>A</sub>	Package	
DIO8210XS8	DIO8210	Green	-40 to +150°C	EP-SOIC8	Tape & Reel, 2500

## Pin Assignments

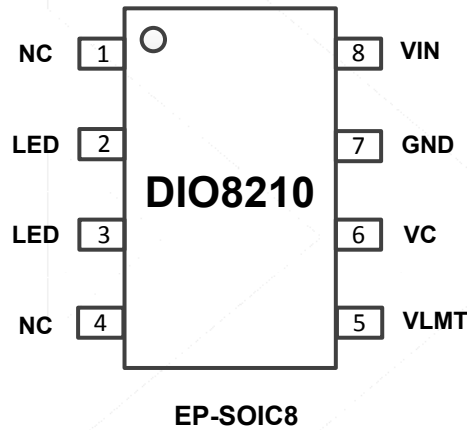
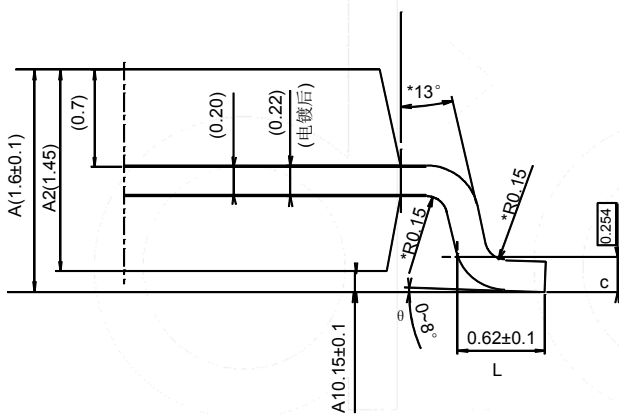
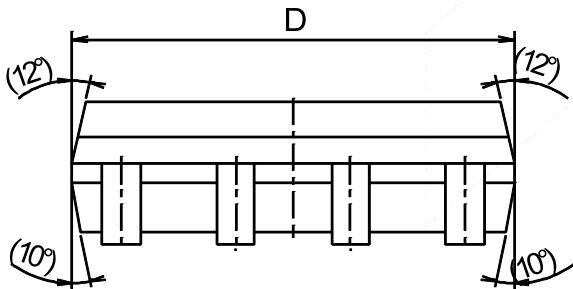
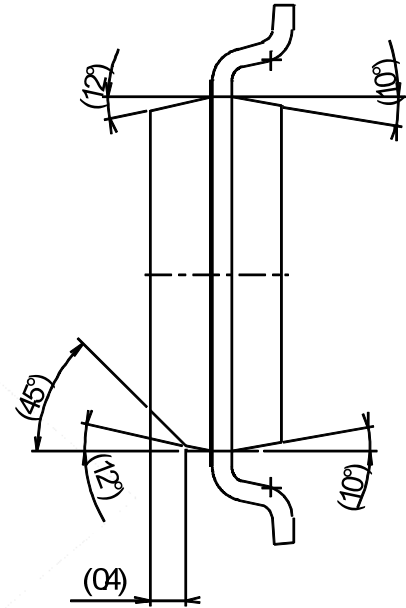
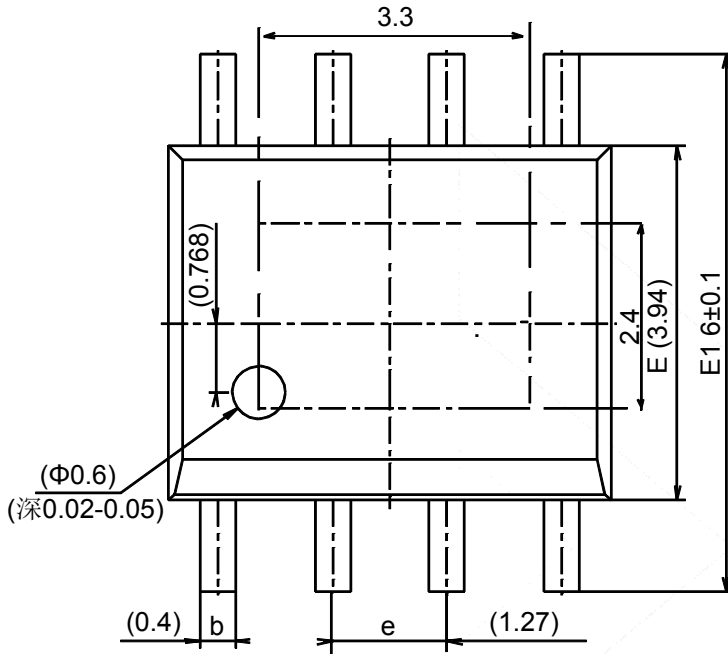


Figure 1 Pin Assignment (Top View)

## Pin Definitions

Pin Name	Description
VIN	Power Supply voltage input
LED	Connect to Cathode of LED string
GND	Ground
VLMT	Adjustable LED Short Protection Threshold
VC	Adjustable LED Current Ripple. By connecting a capacitor between VC to GND to regulate the current ripple.

## Physical Dimensions: EP-SOIC8



COMMON DIMENSIONS (UNITS OF MEASURE=MILLIMETER)			
Symbol	MIN	NOM	MAX
A	1.500	1.600	1.700
A1	0.050	0.165	0.250
A2	1.350	1.450	1.550
b	0.300	0.400	0.500
c	0.220	0.254	0.280
D	4.800	4.900	5.000
E	3.840	3.940	4.040
E1	5.900	6.000	6.100
e		1.27(BSC)	
L	0.520	0.620	0.720
θ	0°		8°



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Adaptive 100/120Hz Current Ripple Remover, Max Input Current  $\leq$  350mA

### CONTACT US

Dioo is a professional design and sales corporation for high-quality and performance analog semiconductors. The company focuses on industry markets, such as, cell phone, handheld products, laptop, and medical equipment and so on. Dioo's product families include analog signal processing and amplifying, LED drivers and charger IC. Go to <http://www.dioo.com> for a complete list of Dioo product families.

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