

1.5A Power LED Driver

AE7150

● General Description:

AE7150 is a PWM power LED driver IC. Its operation voltage is from 4V to 45V, Buck power conversion topology is used, and output current is from milliamps to 1.5A. An external capacitor connected from OSC pin to GND, and the operation frequency is up to 200KHz. External resistor controlled the Maximum output current was connected between VCC and CS pin. The input by-pass capacitor holds the input voltage and filters out the switching noise.

● Features:

Low Cost Only 5 external components

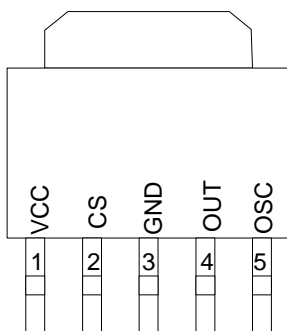
PWM output, High efficiency

Output driving current up to 1.5A

TO-252 5L power package

4V~45V wide operation voltage range

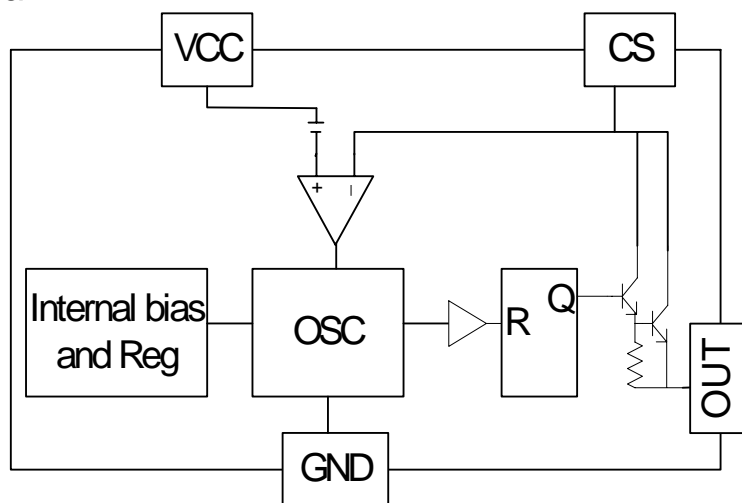
● Pin



● Pin Description

| Name | Description |
|------|---|
| VCC | DC input, from 4V to 45V |
| CS | Peak current sense pin. |
| GND | Ground |
| OUT | Output pin. |
| OSC | Oscillator pin, connect capacitor to GND. |

● Block Diagram



● Absolute Maximum Rating

| Symbol | Parameter | Rating | Unit |
|------------------|---------------------------------------|------------|------|
| VCC | Supply voltage | -0.3 to 45 | V |
| V _{OUT} | Output Voltage | -0.3 to 44 | V |
| T _{stg} | Storage Temperature Range | -40 to 150 | |
| T _L | Lead Temperature(Soldering10 seconds) | 260 | |

● Electrical Characteristics

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|---------------------------------|----------------------------|--|------|------|------|------|
| Supply Voltage (VCC Pin) | | | | | | |
| VCC | Supply Voltage | | 4 | | 45 | V |
| I _{CC} | Operating Current, VCC pin | VCC=4~45V | | | 4 | mA |
| OUTPUT Voltage (OUT Pin) | | | | | | |
| I _{OUT} | OUTPUT Current | | | | 1.5 | A |
| V _{DP} | Output Drop-out voltage | I _{OUT} =1A, V _{CS} -V _{OUT} | | 1.1 | 1.4 | V |
| I _{LK} | Output Leakage Current | V _{CS} =V _{OUT} =45V | | 0.01 | 10 | μA |
| Current Sensing (CS Pin) | | | | | | |
| V _{CS} | Current Sense Voltage | V _{CC} -V _{CS} | 0.27 | 0.3 | 0.33 | V |
| Oscillator (OSC Pin) | | | | | | |
| I _{CH} | OSC charge Current | | | 35 | | μA |
| T _{DC} | Maximum duty cycle | V _{CS} =VCC | | 85 | | % |

● Application Circuit:

