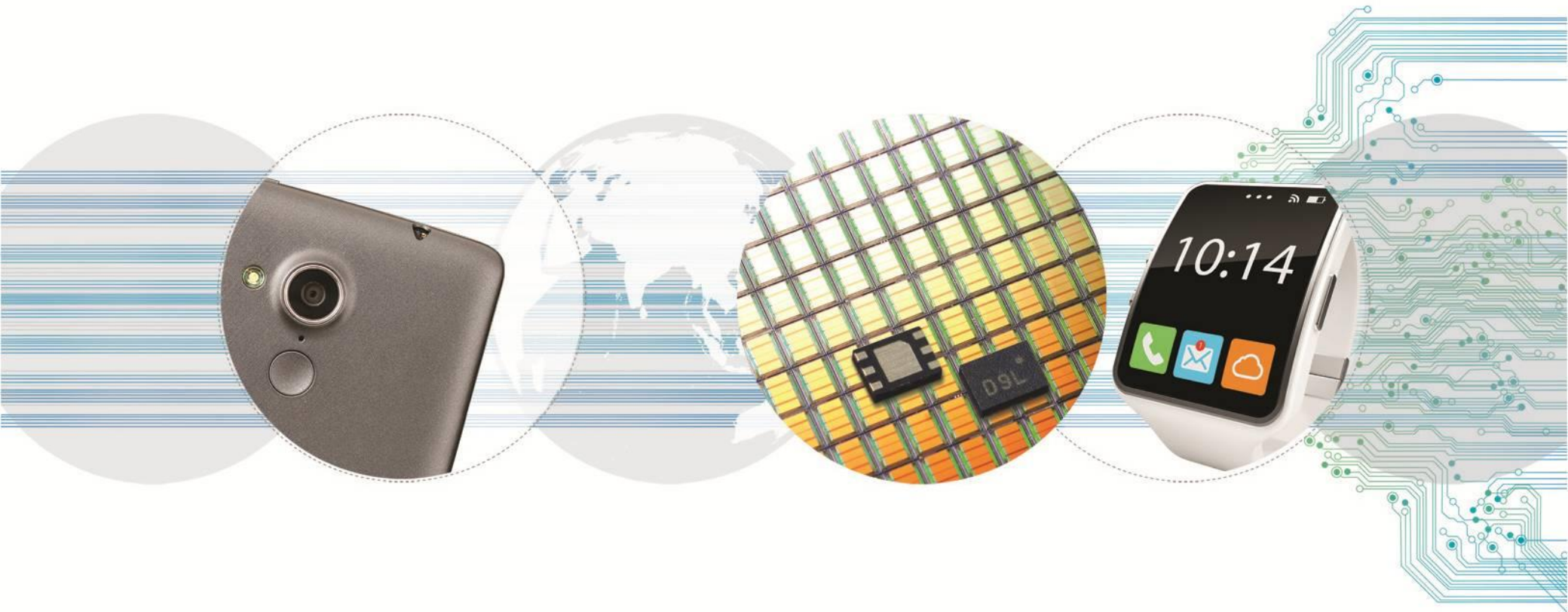


# LED Lighting Driver IC



**DONGWOON**  
ANATECH

# Linear Solution (Constant Current Regulator)

Global Leader in Analog  
DONGWOON  
ANATECH

## Merits

- Wide input/output range
- Low dropout voltage (Max 1V at 1A)
- Simple circuit design (Low cost)
- No EMI/EMS



UV LED Module



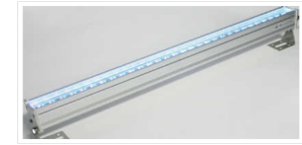
Chanel sign



LED Bar



Car room Lamp



fluorescent lamp

	DW8501	DW8502	DW8505A	DW3505A	DW8506
Vin (min/max(V))	5V to 40V	5V to 40V	5V to 40V	5V to 40V	7.5V to 50V (@ I <sub>OUT</sub> 50mA)
Output Current(mA)	Up to 1.5A adjustable	Up to 2.5A adjustable	Up to 100mA adjustable	Up to 300mA adjustable	Up to 100mA adjustable
Dropout Voltage	Max.0.3V @ ILED=300mA	Max. 1V @ ILED=1A	Max. 0.2V @ ILED=60mA	Max. 0.2V @ ILED=60mA	Max. 0.5V @ ILED=50mA
Dimming	PWM	PWM	PWM	PWM	-
Protection Function	Thermal derating	Thermal derating	Thermal derating	Thermal derating	Thermal derating
Package Options	SOT223-5L (6.5 x 3.5 x 1.8) TO252-5L (6.5 x 5.5 x 2.3)	TO263-5L (10.16x15.35x4.57) TO220-5L (10.1x28.85x4.57)	SOT23-5L (2.9 x 2.8 x 1.45)	SOT-89-5L (4.5 x 2.45 x 1.5)	SOT23-5L (2.92 x 2.8 x 1.3)
Typical application circuit	<p>V<sub>IN</sub> = 5 ~ 40Vdc Max. 1.5A</p>	<p>V<sub>IN</sub> = 5 ~ 40Vdc Max. 2.5A</p>	<p>V<sub>IN</sub> = 5 ~ 40Vdc Max. 100mA</p>	<p>V<sub>IN</sub> = 5 ~ 40Vdc Max. 300mA</p>	<p>V<sub>IN</sub> = 7.5 ~ 50Vdc Max. 100mA</p>

# DW8501 : Linear, High Power



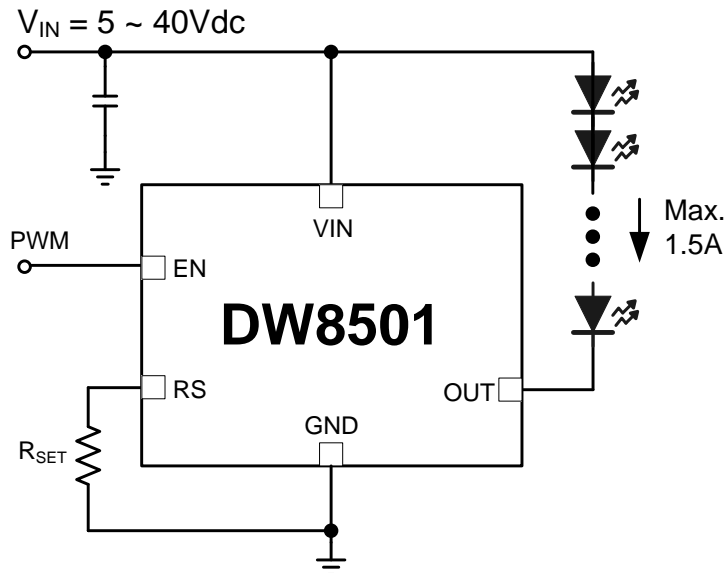
## Features

- 5V to 40V Supply voltage
- Regulated output current up to 1.5A adjustable
- Low dropout voltage : Max. 1V @  $I_{LED}=1A$
- Built-in thermal derating circuit
- Available PWM dimming control
- Thermal enhanced package SOT223-5L, TO252-5L

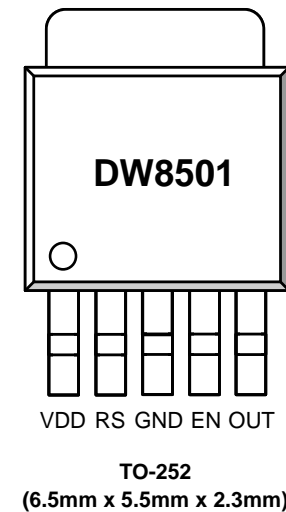
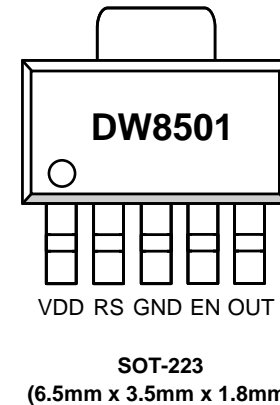
## Applications

- LED light bulbs
- Signage and decorative LED lighting
- General lighting of flat panel displays
- Automotive
- RGB backlighting
- Current stabilizer with DC/DC or AC/DC
- General purpose constant current source

## Typical Application



## Package



# DW8502 : Linear, High Power



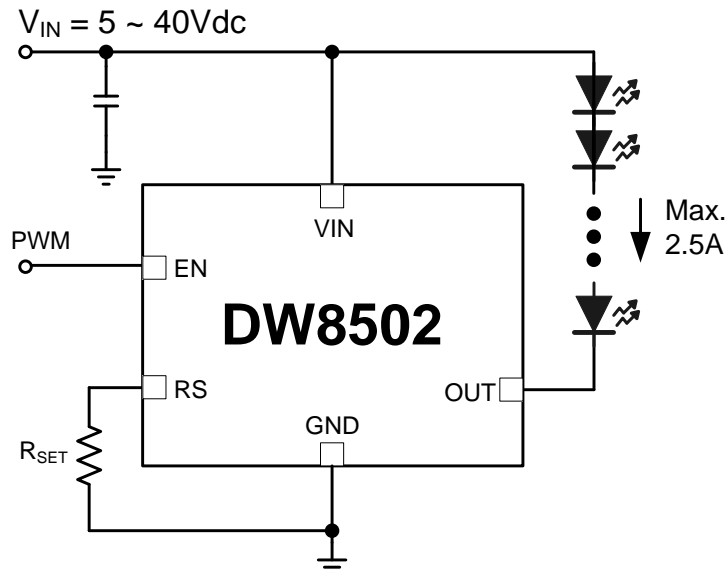
## Features

- 5V to 40V Supply voltage
- Regulated output current up to 2.5A adjustable
- Low dropout voltage : Max. 1V @  $I_{LED}=1A$
- Built-in thermal derating circuit
- Available PWM dimming control
- Thermal enhanced package TO263-5L, TO220-5L

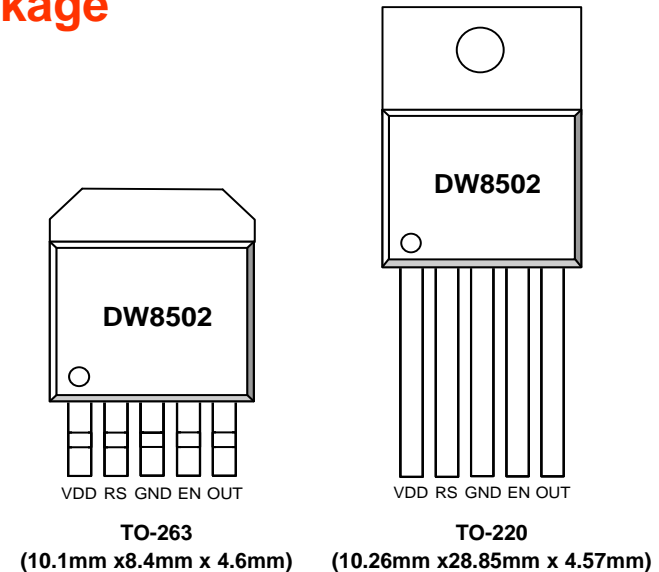
## Applications

- LED light bulbs
- Signage and decorative LED lighting
- General lighting of flat panel displays
- Automotive
- RGB backlighting
- Current stabilizer with DC/DC or AC/DC
- General purpose constant current source

## Typical Application



## Package



# DW8505A : Linear, Low Power

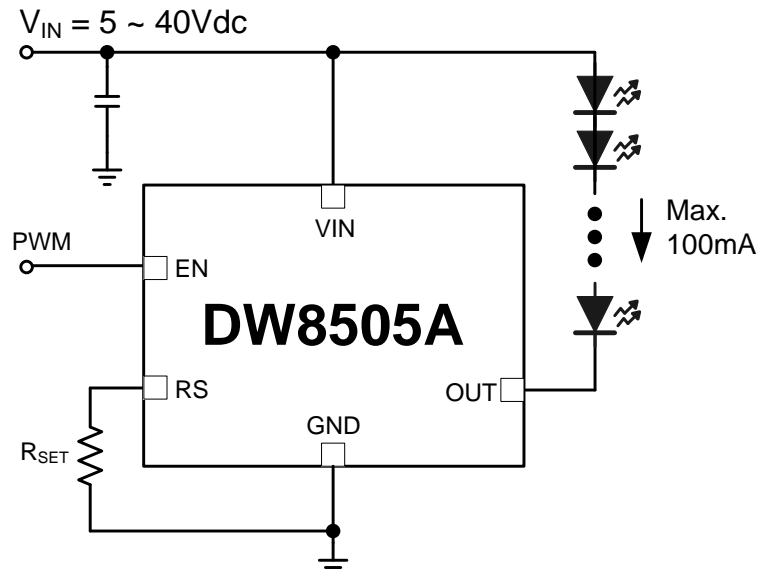
## Features

- 5V to 40V Supply voltage
- Regulated output current up to 100mA adjustable
- Low dropout voltage : Max. 0.2V @  $I_{LED}=60mA$
- Built-in thermal derating circuit
- Available PWM dimming control
- Thermal enhanced package SOT23-5L

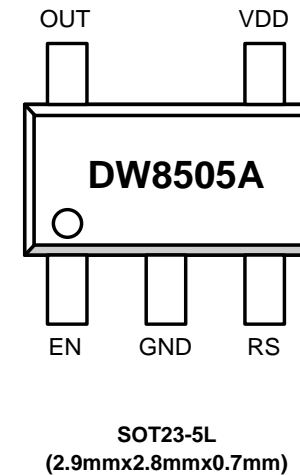
## Applications

- LED light bulbs
- Signage and decorative LED lighting
- General lighting of flat panel displays
- Automotive
- RGB backlighting
- Current stabilizer with DC/DC or AC/DC
- General purpose constant current source

## Typical Application



## Package



# DW3505A : Linear, Middle Power

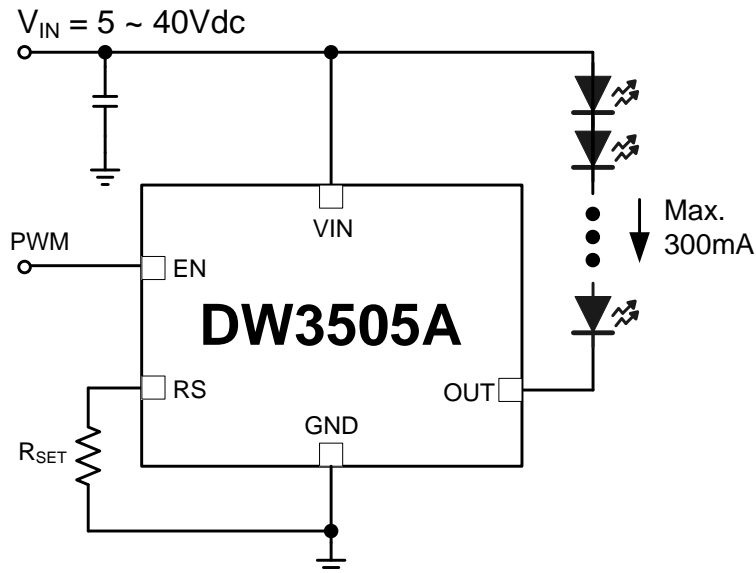
## Features

- 5V to 40V Supply voltage
- Regulated output current up to 300mA adjustable
- Low dropout voltage : Max. 0.5V @  $I_{LED}=200mA$
- Built-in thermal derating circuit
- Available PWM dimming control
- Thermal enhanced package SOT89-5L

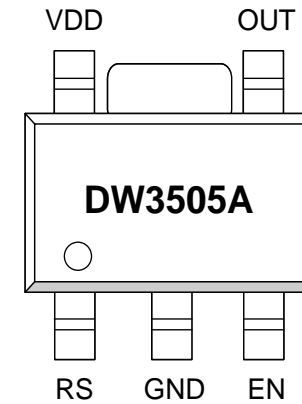
## Applications

- LED light bulbs
- Signage and decorative LED lighting
- General lighting of flat panel displays
- Automotive
- RGB backlighting
- Current stabilizer with DC/DC or AC/DC
- General purpose constant current source

## Typical Application



## Package



SOT-89-5L  
(4.5mm x 2.45mm x 1.5mm)

# DW8506 : Linear, Low Power

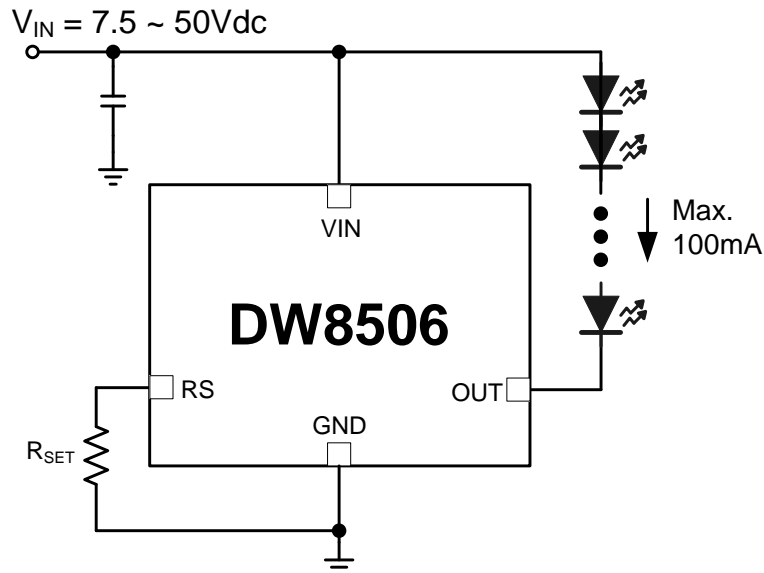
## Features

- 7.5V to 50V Supply voltage @  $I_{LED}=50mA$
- Regulated output current up to 100mA adjustable
- Low dropout voltage : Max. 0.5V @  $I_{LED}=50mA$
- Built-in thermal derating circuit
- Thermal enhanced package SOT23-5L

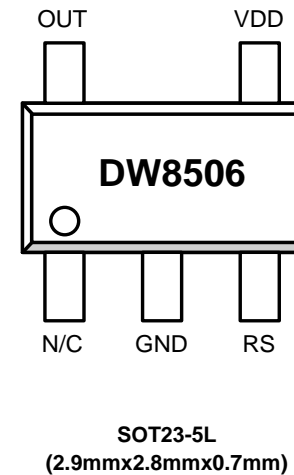
## Applications

- LED light bulbs
- Signage and decorative LED lighting
- General lighting of flat panel displays
- Automotive
- RBG backlighting
- Current stabilizer with DC/DC or AC/DC
- General purpose constant current source

## Typical Application



## Package



# AC/DC Non-Isolated Solution

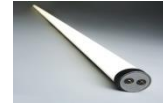
Global Leader in Analog  
DONGWOON  
ANATECH

## Merits

- High Current accuracy / High Efficiency
- No auxiliary winding
- Low Current Ripple
- Multi- Protections (OCP/TSD/LED Open\_Short)



Bulb



fluorescent lamp



flat panel



Indicator

	DW8533B
Topology	Buck(Non-Isolated)
Power Range	< 30W
Line/Load Regulation	±3%
Power Factor	> 0.9
Auxiliary Winding	No need
FET	650V FET Integrated
Protection Function	Cycle-by-cycle current limit LED Short/Open Over Temperature
Package	SOP-7L (6.0 x 5.0 x 1.75)
Typical Application circuit	



# DW8533B : Non-Isolated IC with PFC, Internal MOSFET



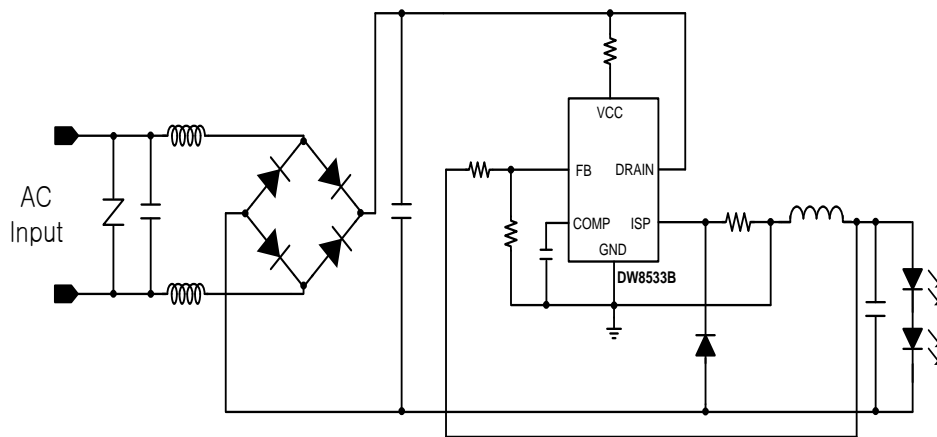
## Features

- No auxiliary winding
- Supplied from line voltage directly
- High voltage MOSFET integrated
- High current accuracy of line and load regulation
- High power factor
- Critical conduction mode
- High efficiency over wide operating range
- Cycle-by-cycle current limit
- LED open / Inductor short / ISP short protection
- Internal over-temperature protection
- Compact SOP7 package

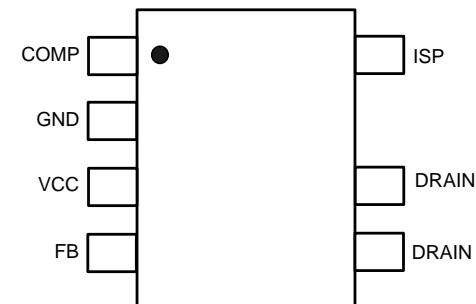
## Applications

- DC/DC or AC/DC LED driver applications
- Signage and decorative LED lighting
- General lighting of flat panel displays
- RGB backlight
- General purpose constant current source
- Bulb light

## Typical Application



## Package



SOP-7L  
(6.0mmx5.0mmx1.75mm)

# PFC IC Solution



## Merits

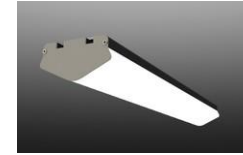
- Wide range operation voltage
- Low start-up quiescent current
- Thermal Protections (TSD/TD)



Sensor light



flat panel



Parking lot light

	DW8528B
Topology	Primary PFC
Vcc Operating Voltage	10.3V~26V
Vcc Hysteresis	6.5V
IQ quiescent Current	2.5mA
Vcc Over Voltage Level	32V
Vcs Current Sense voltage	1.05V
Vmulti Linear Operating Voltage	0 to 3V (min.)
Reshaper Circuit	-
Power Factor	Similar to L6562
Protection Function	Thermal shutdown Vin Over Voltage Protection Feedback Open Protection
Typical application circuit	<p>The diagram shows a primary PFC converter circuit. It includes an AC input (VAC) connected to a bridge rectifier. The output of the rectifier is connected to a power MOSFET through a series inductor. The MOSFET is driven by a gate driver circuit. The secondary side of the transformer is connected to a diode bridge rectifier, which is connected to a filter capacitor and the output (VOUT). The DW8528B IC is connected to the MOSFET gate and the feedback network. The feedback network includes a feedback inductor and a feedback capacitor. The IC is also connected to a thermal shutdown protection circuit.</p>

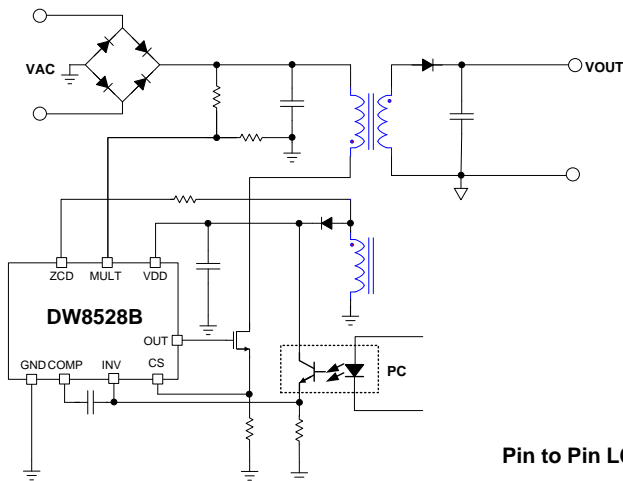
# DW8528B : Primary PFC IC



## Features

- Wide operating range of VCC (10.3~26V)
- Boundary mode PFC control
- Improved power factor and THD
- Extremely low startup low quiescent current
- On chip filter on current sense
- Disable function on ZCD pin
- -600mA/+800mA Totem pole gate driver
- Under voltage lock out
- Output over voltage protection
- Thermal shutdown protection
- VCC over voltage protection (VCC>32V)
- Feedback open protection

## Typical Application

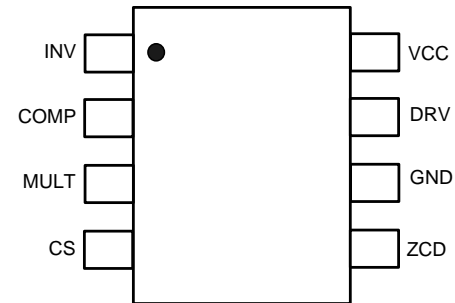


Pin to Pin L6562A

## Applications

- All of LED lighting Applications
- AC Input LED Lighting Applications
- In / Outdoor Lighting, Street, Roadway, Parking, Construction Lamp

## Package



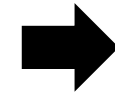
SOIC-8L  
(4.9mm x 6.0mm x 1.4mm)

# Products Solution

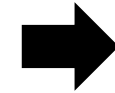


## Channel sign

SMPS + Linear Application



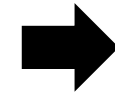
DW8501  
(SOT-223)



DW8505A  
(SOT-89)

## LED Bar

SMPS + Linear Application

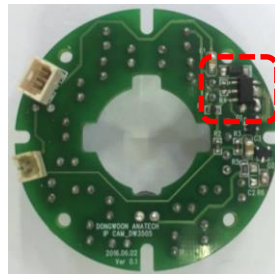


DW8501  
(TO-252)

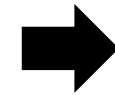
## IP Camera Module



EVN Top



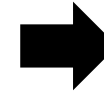
EVN Bottom



DW3505A  
(SOT89-5L)

## L-Tube

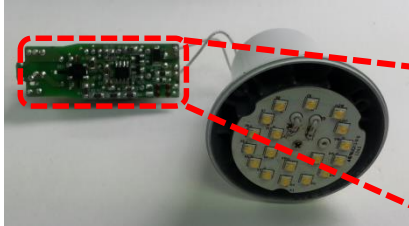
Non-Isolated type Application



**DW8533B  
(SOP-7L)**

## LED Bulb

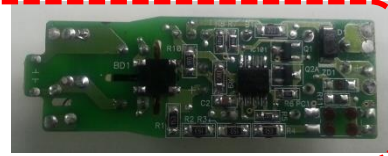
Non-Isolated type Application



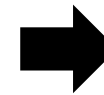
**Bulb**



**EVB Top**



**EVB Bottom**



**DW8533B  
(SOP-7L)**

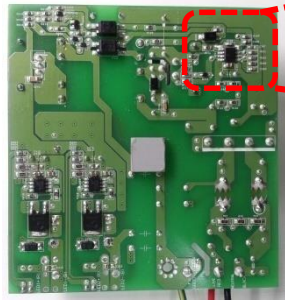
# Products Solution

## Flat Panel

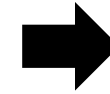
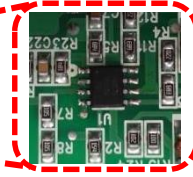
PFC IC + DC/DC Application



EVB Top



EVB Bottom



**DW8528B  
(8SOIC)**

## Sensor lighting

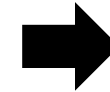
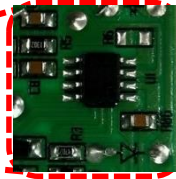
PFC IC + Dual OPAMP Application



EVB Top



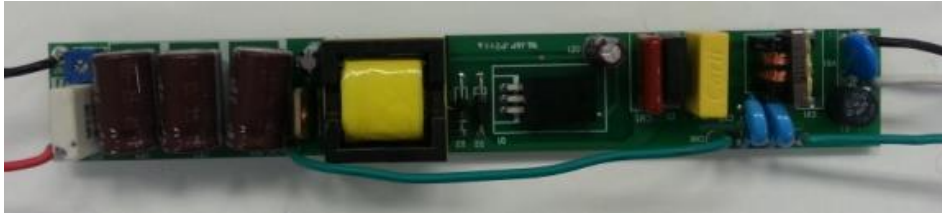
EVB Bottom



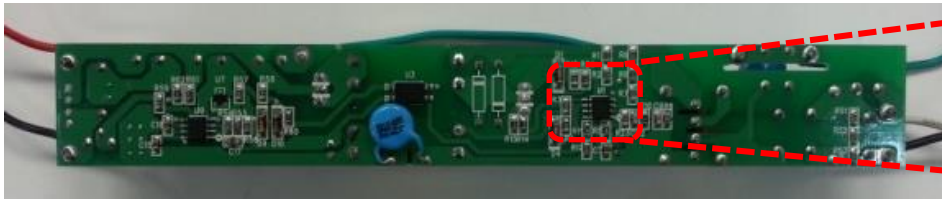
**DW8528B  
(8SOIC)**

## SMPS (Switching Mode Power Supply)

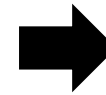
PFC IC + TL431 Application ( CV Mode )



EVB Top



EVB Bottom



**DW8528B  
(8SOIC)**