

A large blue graphic on the left side of the slide, consisting of a dark blue vertical rectangle and a light blue triangle pointing downwards, overlapping the rectangle.

LED Drivers For Lighting

Dongwoon Anatech

Product Line Up

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구분	P/N	Function							PKG	비고		
Linear	DW8501	Operating 5V~40V	IMAX 1500 mA	PWM	±5% Accuracy	120°C TDrating			TO-252 SOT-223			
	DW8502	Operating 5V~40V	IMAX 2500 mA	PWM	±5% Accuracy	120°C TDrating			TO-263			
	DW8505A	Operating 5V~40V	IMAX 100 mA	PWM	±3% Accuracy	120°C TDrating			SOT-23			
	DW8506	Operating 5V~40V	IMAX 100 mA		±3% Accuracy	120°C TDrating			SOT-23	New Product		
DC/DC Buck	DW8520	Operating 9V~450V	0~10 Dimming	PWM	±5% Accuracy	Efficiency Up to 90%	External	TSD		8-SOIC		
	DW8522	Operating 4.5V~40V	0~10 Dimming	PWM	±5% Accuracy	Efficiency Up to 98%	External	TSD	120°C TDrating	Up to 2MHz	8-SOIC 6 TDFN	
	DW8525	Operating 6V~35V	On/Off	300kHz	±5% Accuracy	Efficiency Up to 95%	Internal	TSD	120°C TDrating		8-SOIC	
PFC	DW8527	Operating 90~265V	UVLO	Soft start	THD	LOW Startup Q-Current	External	TSD	120°C TDrating		8-SOIC	
	DW8528	Operating 10.3~36V	UVLO	6.5V Hysteresis	Power Limit FOP	Low Vos Voltage	PF 1 THD 1 Reshaper	LOW Startup Q-Current	External	TSD		8-SOIC
CV/CC	DW8508	Operating 10V~35V	0~10 Dimming	PWM	LED Open/ Short	OVP	FB Open/ Short	TSD	120°C TDrating		8-SOIC	New Product

DW850x : Linear type , LED Driver IC

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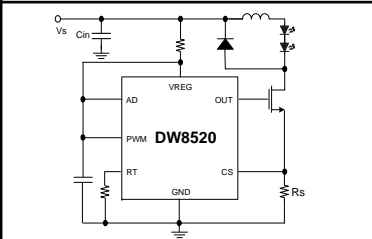
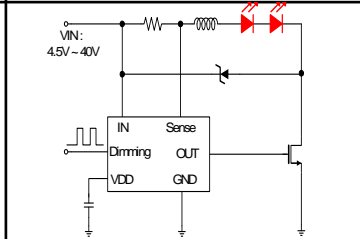
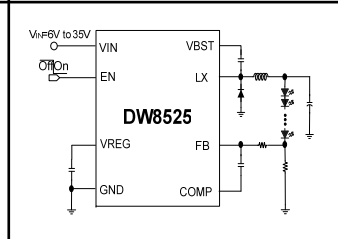
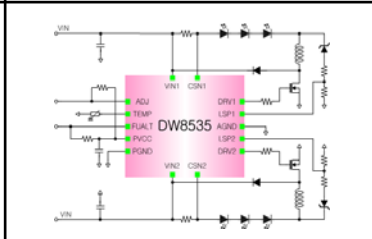
The DW850X series are linear LED drivers for low/medium/high power LEDs. The DW850X series realize constant current driver ICs with simple circuit design. The DW850X provide cost-effective solutions for LED light bulbs, fluorescent lamp, street light, signage and decorative LED lighting, general lighting of flat panel displays, RGB backlighting, current stabilizer with DC/DC or AC/DC, general purpose constant current source

	DW8501	DW8502	DW8505A	DW8506
Vin (min/max(V))	5V to 40V	5V to 40V	5V to 40V	6.5V to 40V
Output Current(mA)	Up to 1.5A adjustable	Up to 2.5A adjustable	Up to 100mA adjustable	Up to 100mA adjustable
Dropout Voltage	Max.0.3V @ ILED=300mA	Max. 1V @ ILED=1A	Max. 0.2V @ ILED=60mA	Max. 0.5V @ ILED=50mA
Dimming	PWM	PWM	PWM	-
Protection Function	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)	SOT23-5L (2.9 x 2.8 x 1.45)	SOT23-5L (2.92 x 2.8 x 1.3)
Typical application circuit				

DW8520/22/25/35 : DC-DC type, LED Driver IC

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The DW8520/22/25/35 series are the step-down constant-current high-brightness LED drivers.

x	DW8520	DW8522	DW8525	DW8535
Topology	Buck	Hysteretic buck	Buck	2-Channel Hysteretic Buck
Efficiency	up to 90%	up to 97%	up to 96%	Up to 95%
Input Voltage	9V~450V	4.5~40V	6V~35V	6.5V~60V
Quiescent Current	Typical 0.5mA	Typical 1.0mA	Typical 1.2mA	Typical 3mA
Switching Frequency	Constant frequency or constant off-time operation	Up to 2MHz	Fixed 300kHz	Up to 2MHz
Dimming	PWM and Analog	PWM and Analog	-	PWM and Analog
Protection Function	Thermal shutdown	Thermal derating, Thermal shutdown	Thermal derating, Thermal shutdown	Thermal derating
Accuracy	10%	5%	5%	2.5%
FET	External		Internal	External
Package Option	8 SOIC(4.9 x 6.0 x 1.4)	6 TDFN(3.0 x 3.0 x 0.75)	8 SOIC(4.9 x 6.0 x 1.4)	16 SOIC(6 x 9.9 x 1.75)
Typical application circuit				

DW8527/28 : Primary PFC IC

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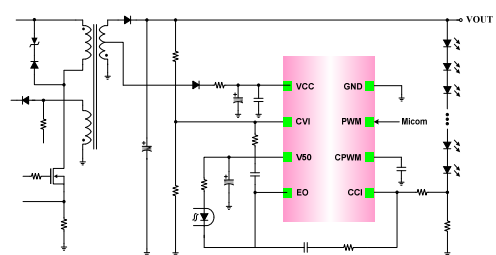
The DW8527/28 series are active boundary-mode power factor correction controller for AC-DC SMPS applications.

x	DW8528	DW8527
Topology	PFC IC	PFC IC
VCC Operating Voltage	10.3V ~ 36V	10.3V ~ 22V
VCC Hysteresis	6.5V	2.5V
Vcs Sensing Voltage	0.8V	0.8V
FET	External	External
AC High Voltage Input – THD/PF	High Performance THD/PF	-
Soft Start	-	Adjusted Soft Start time
Protection Function	Thermal shutdown, Feed back Open Protection	Thermal shutdown
Package Option	8 SOIC(4.9 x 6.0 x 1.4)	8 SOIC(4.9 x 6.0 x 1.4)
Typical application circuit		

DW8508 : CC/CV with Dimming Controller

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The DW8508 is CC/CV(Constant Current & Constant Voltage) IC for stable LEDs driving in a secondary side.

x	DW8508
Topology	Dual Opamp
VCC Operating Voltage	8V ~ 36V
Opamp Sink Diode	No need
Dimming	Analog / PWM
0 -10 Dimming	Good Implementation
' 0 ' Dimming	No Flicker
Protection Function	OVP, LED Open, LED short, Thermal Protection
Package Option	8 SOIC(4.9 x 6.0 x 1.4)
Typical application circuit	

DW8500 : Linear type , Middle power LED Driver IC

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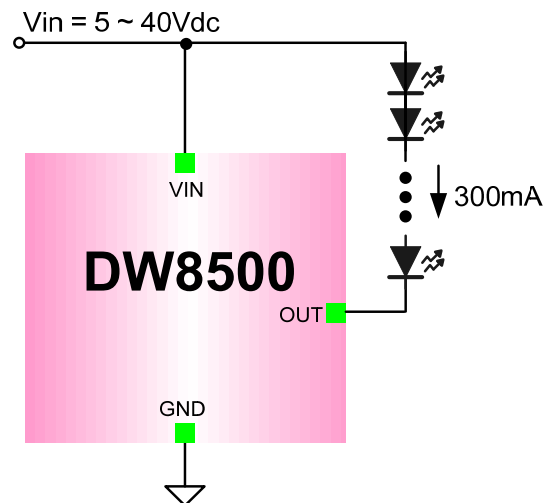
Features

- 5V to 40V Supply voltage
- Regulated output current 300mA fixed
- Low dropout voltage : Max. 300mV @ $I_{LED}=300mA$
- Built-in thermal derating circuit
- Thermal enhanced package SOT89-3L

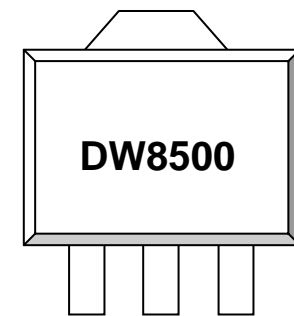
Applications

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

Typical Application



Package



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

DW8501 : Linear type , High power LED Driver IC

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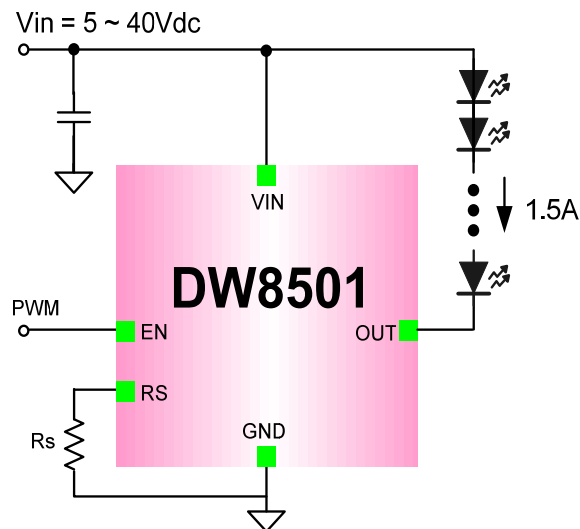
Features

- 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

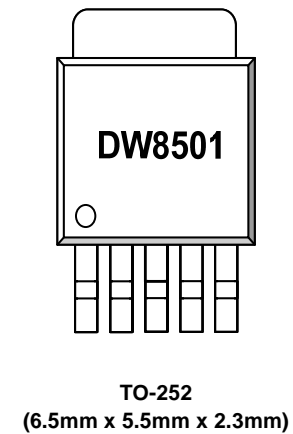
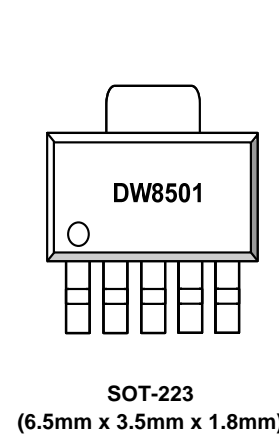
Applications

- 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 type , High power LED Driver IC

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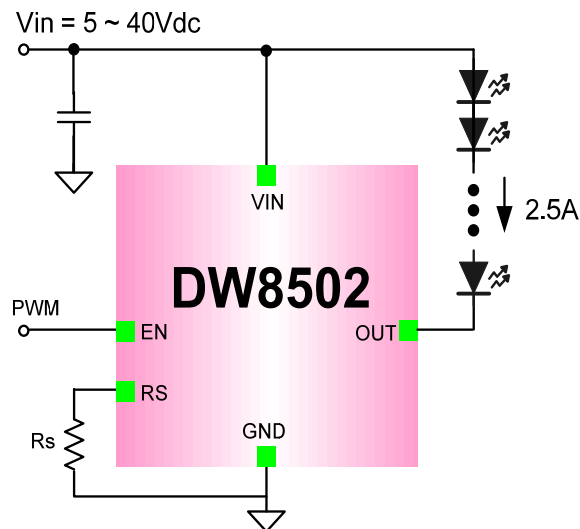
Features

- 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

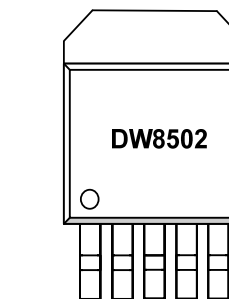
Applications

- 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

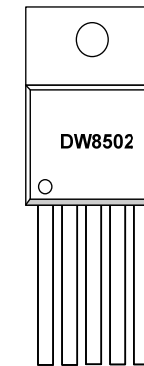
Typical Application



Package



TO-263
(10.1mm x 8.4mm x 4.6mm)



TO-220
(10.26mm x 28.85mm x 4.57mm)

DW8505A : Linear type , Low power LED Driver IC

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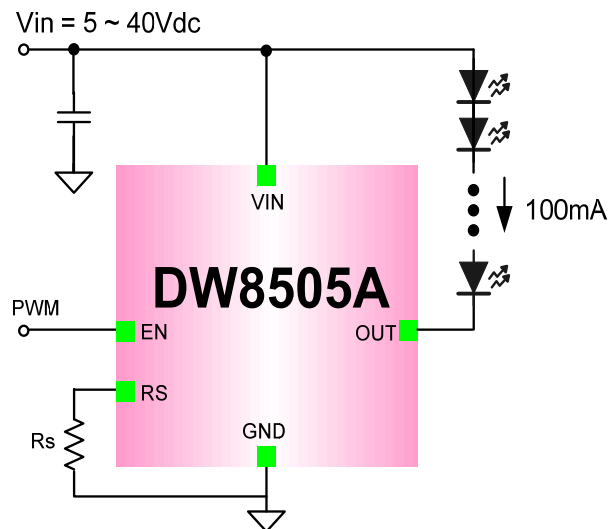
Features

- 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

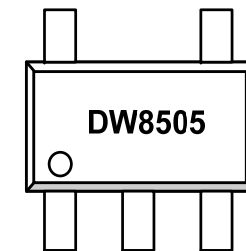
Applications

- 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



SOT23-5
(2.9mmx2.8mmx0.7mm)

DW8506 : Linear type , Low power LED Driver IC

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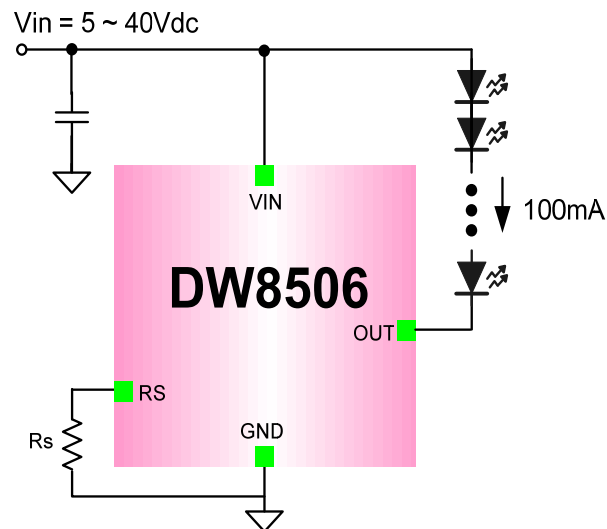
Features

- 6.5V to 40V Supply voltage
- Regulated output current up to 100mA adjustable
- Low dropout voltage : Max. 0.6V @ ILED=50mA
- Built-in thermal derating circuit
- Thermal enhanced package SOT23-5L

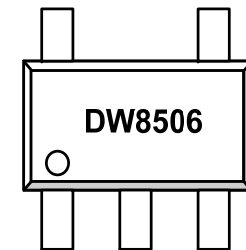
Applications

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

Typical Application



Package



SOT23-5
(2.9mmx2.8mmx0.7mm)

DW8520 : Universal High power LED Driver IC

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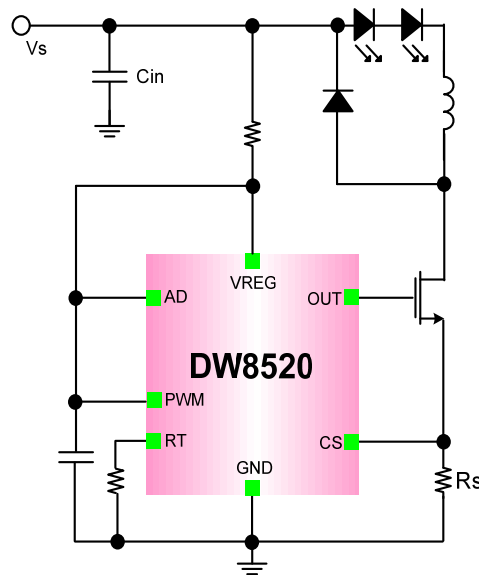
Features

- 9V to 450V supply voltage
- Buck converter topology LED drivers
- Internal zener regulator
- Constant frequency or constant off-time operation
- Linear and PWM dimming capability
- Open loop peak current controller
- High efficiency up to 90%
- Thermal enhanced package SOIC-8

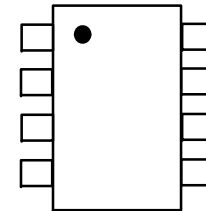
Applications

- 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



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

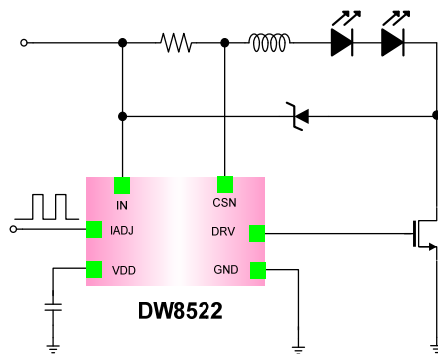
DW8522 : High Speed/Performance LED Driver IC

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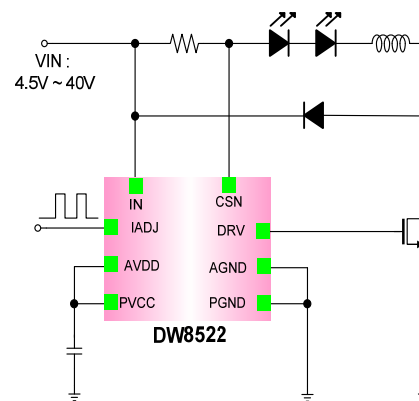
Features

- 4.5V to 40V Input voltage range
- Hysteretic buck control : Low parts count
- Single pin On/Off and brightness control Using DC voltage and PWM
- Thermal derating function
- 20KHz maximum dimming PWM frequency
- Up to 2MHz switching frequency
- $\pm 2.5\%$ LED current accuracy
- Thermal enhanced package SOIC-8, TDFN-6

Typical Application



6 TDFN

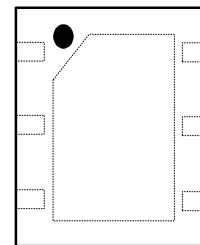


8 SOIC

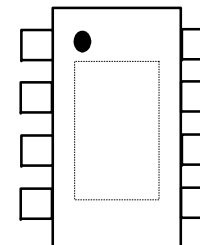
Applications

- MR16, PAR, L-Tube Lighting
- Offline LED lamps and fixtures
- Signage and Decorative lighting
- General purpose LED lighting

Package



6 TDFN
(3mm x 3mm x 0.75mm)



8 SOIC – EP
(4.9mm x 6.0mm x 1.4mm)

DW8525 : 1A Buck Converter LED Driver IC

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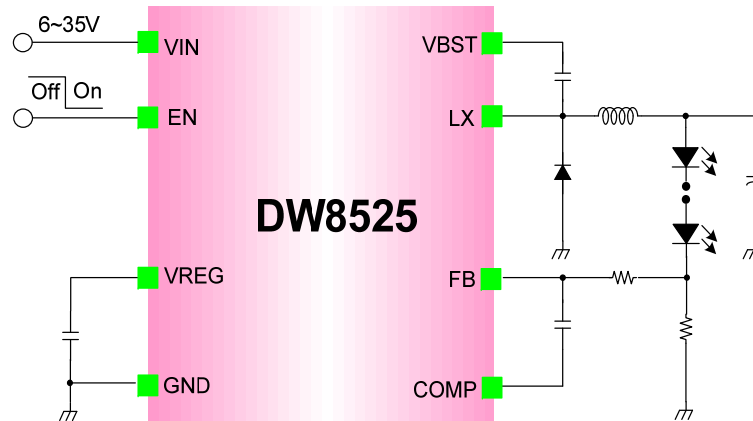
Features

- 6V to 35V supply voltage
- Buck converter topology LED drivers
- 1.0A Output current
- Internal high-side switch
- Fixed 300kHz internal oscillator
- Thermal shutdown and short-circuit protection
- Thermal enhanced package SOIC-8

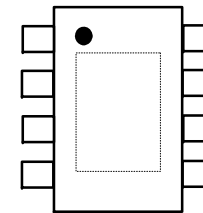
Applications

- MR16 Lighting
- Offline LED lamps and fixtures
- Signage and Decorative lighting
- General purpose LED lighting

Typical Application



Package



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

DW8527 : Primary PFC IC

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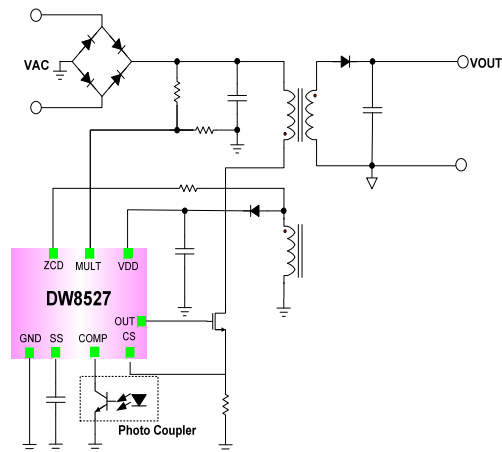
Features

- Transition mode PFC controller
- Multiplier with Improved power factor and THD
- Ultra low start-up (30uA) / Quiescent current (2.5mA)
- On chip filter on current sense
- -600mA/+800mA Totem pole gate driver
- Built-In protection (Soft-Start, OVP, UVLO, Feedback Open)
- Open load regulation
- 2nd detect by comp voltage
 - Vcomp=low : No load, OVP
 - Vcomp>4V : Load open, FB-GND Short
- Zero current switching for low power consumption

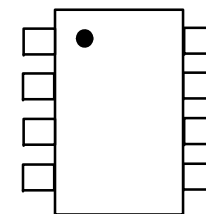
Applications

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

Typical Application



Package



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

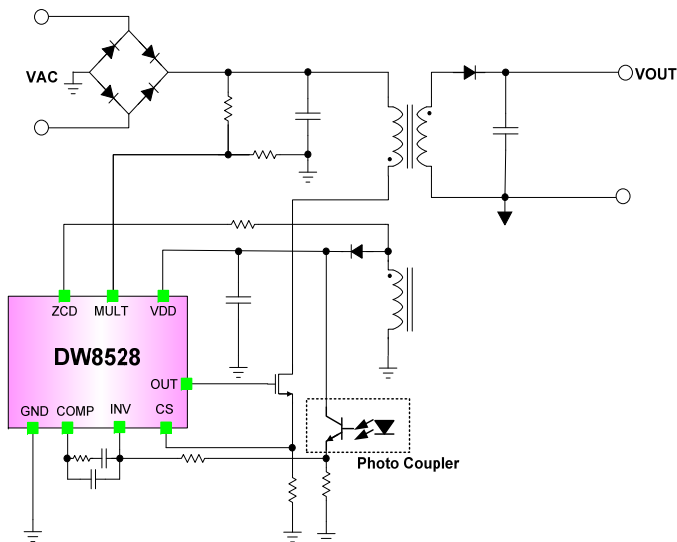
DW8528 : Primary PFC IC

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Features

- Wide operating range of VCC (9.5~36V)
- 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 ($VCC > 40V$)
- Feedback open protection

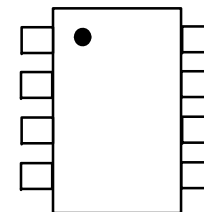
Typical Application



Applications

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

Package



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

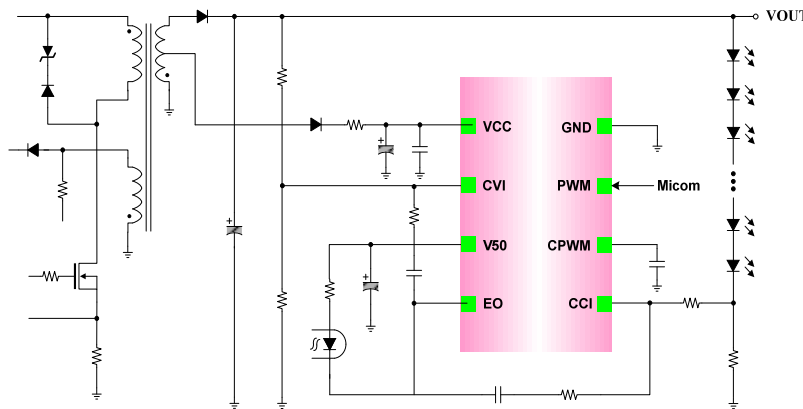
DW8508 : CC/CV with Dimming Controller

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Features

- Constant current & Constant voltage Driving
- Wide range operating voltage (8V~30V)
- Built in 5V Regulator
- PWM/Analog Dimming Control
: 0V ~ 10V Dimming (0V LED No flicker)
- Thermal derating function
- Built in Protection circuit (LED Open/Short)
- Low feedback voltage (0.3V)
- Thermal enhanced package SOIC-8

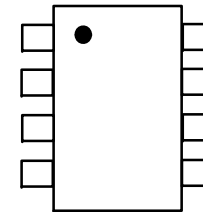
Typical Application



Applications

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

Package



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

DW8535 : High Speed/Performance 2CH LED Driver IC

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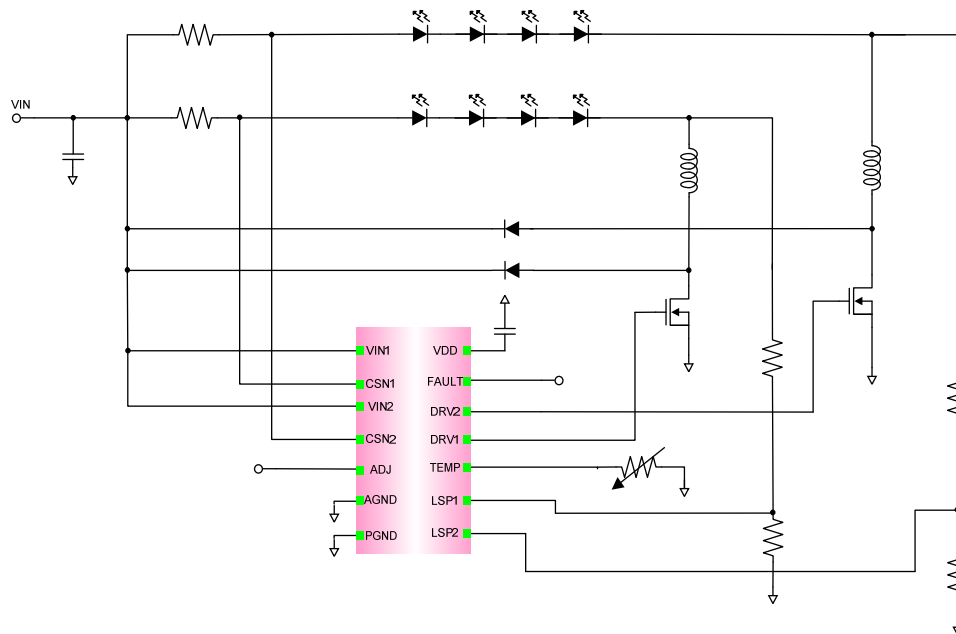
Features

- 6.5V to 60V Input voltage range
- 2-Channel hysteretic buck control
- +/-2.5% LED Current accuracy
- Up to 95 % efficiency
- Analog and PWM dimming simultaneously
- Various fault detection or protection function (LED open/short, Temperature, TSD)
- Up to 2MHz switching frequency
- Over temperature derating (30%)

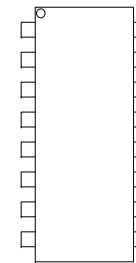
Applications

- Offline LED lamps and fixtures
- Signage and Decorative lighting
- General purpose LED lighting
- LED Streetlights
- LED Flat Panel Lighting

Typical Application



Package



16 SOIC
(10mm x 6.2mm x 1.75mm)

Customers (Driver for LED Lighting)

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SAMSUNG LED

Hansol
Technics

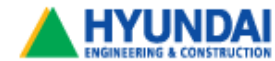
LS Industrial Systems



KUMHO ELECTRIC, INC.



WOOREE LED



NAMYUNG LIGHTING

nejes
Eternal Life

SAMJIN LND
A LEADER OF GREEN TECHNOLOGY AND SOLUTION FOR THE FUTURE LIGHTING



HYUNDAI IHL
현대아이에이치엘(주)

LG이노텍

HYUNDAI 현대 LED

DONGWOON ANATECH

LED Lighting IC Roadmap

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