



New Product Announcement

AL3353

High-Performance 40V Boost Controller

The AL3353 is a highly integrated and cost effective Light Emitting Diode (LED) controller optimized for monitor and TV LED backlighting applications. It provides a high performance backlight solution with a simple BOM.

The AL3353 contains a PWM boost driver which uses current mode control with fixed frequency operation to regulate the LED current. The LED current is sensed through an external current sense resistor. The voltage across the sensing resistor is compared with reference level of 400mV, the error is amplified to control the pulse width of the power switch thus to regulate the current flowing the LED. With feedback resistor network connected from output voltage, the AL3353 can be used to regulate output voltage applications.

The AL3353 offers PWM to analog dimming conversion for a wide range of dimming control.

The AL3353 has comprehensive protection features, available in the SO-8 package.



The Diodes Advantage

The AL3353 provides high-performance backlight solutions with minimal external components for LED TV and monitor applications.

- **Wide Input Voltage Range: 9V to 40V**

Operates from 12V and 24V Power Rails

- **High precision feedback reference voltage**

400mV with +/-1.5% tolerance

- **Fast PWM Convert to Wide Analog Dimming Range**

Avoid E-flicker due to low frequency LED current ripples, the dimming range is 1%~100% and dimming frequency up to 50KHz.

- **Fixed Frequency Operation**

The typical driver operation frequency is ~120KHz.

- **Full Protections**

Undervoltage Lock Out (UVLO), Output Overvoltage Protection (OVP), Power MOSFET Overcurrent Protection (OCP), Diode and Inductor Short Protection, LED Cathode Short to GND Protection, LED Open Protection, VOUT Short Protection, Over-Temperature Protection (OTP).

Applications

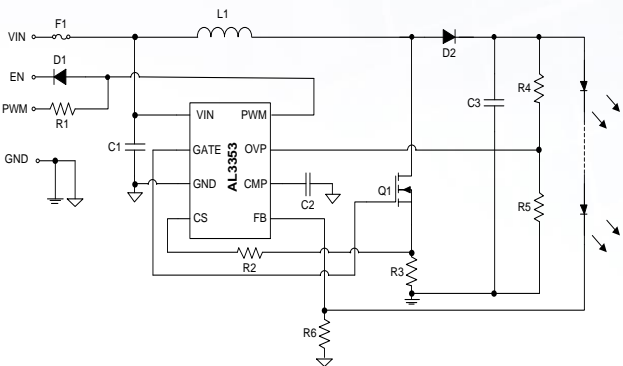
- LED TV Backlight
- Commercial LED Lighting
- Power Supply Modules



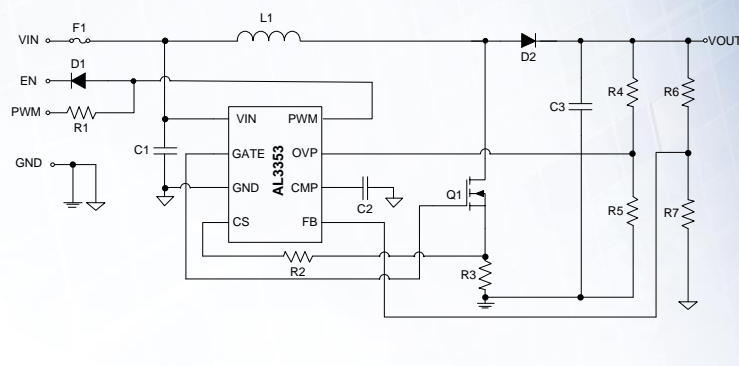
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Typical Applications Circuit



AL3353 Constant Output Current Application



AL3353 Constant Output Voltage Application

Product Portfolio

Part Number	Min. Input Voltage	Max. Input Voltage	Max. Output Voltage	Output Current per CH	Accuracy	Channel	Current Matching	Switching Freq (Max)	Dimming Control			Operating Temp Range	Package Outline
	V	V	V	mA	+/- %	CH	+/- %	kHz	DC to Analog	Direct PWM	PWM to Analog	°C	
AL3065A	4.5	33	60	400	3.0	4	0.5	100 ~ 1000	Y	Y	Y	-40 ~ 85	SO-16
AP3041	5	27	External MOSFET	External MOSFET	2.0	1	-	100 ~ 500	N	Y	N	-40 ~ 85	SO-16
AL3022	4	18	External MOSFET	External MOSFET	3.0	1	-	140	Y	Y	N	-40 ~ 85	SO-8
AL3353	9	40	External MOSFET	External MOSFET	1.5	1	-	120	N	N	Y	-40~105	SO-8

Ordering Information

Part Number	Package Code	Packaging	13" Tape and Reel	
			Quantity	Part Number Suffix
AL3353S-13	S	SO-8	4,000/Tape & Reel	-13

For more information: <https://www.diodes.com/part/AL3353>