

### Three Independent Channel 60V Linear LED Driver for Color Tuning Illumination

The AL1783 is a 60V three-channel linear LED driver with independent PWM dimming and current setting controls for each channel. It provides wide dynamic range color tuning applications.

The AL1783 allows for a compact cost effective eBOM solution for Connected, Commercial, Industrial, and RGB LED lighting applications.

Its 60V input and LED pin operating voltage enables it to operate in standard 12V, 24V, and 48V rails and can drive up to 16 LEDs. Its 1kHz dimming frequency also minimizes eflicker.

Fault pin reporting status consists of LED open/short, UVLO, and over-temperature protection.

The AL1783 is available in the TSSOP-16EP package, to minimize PCB space as well as external component count.



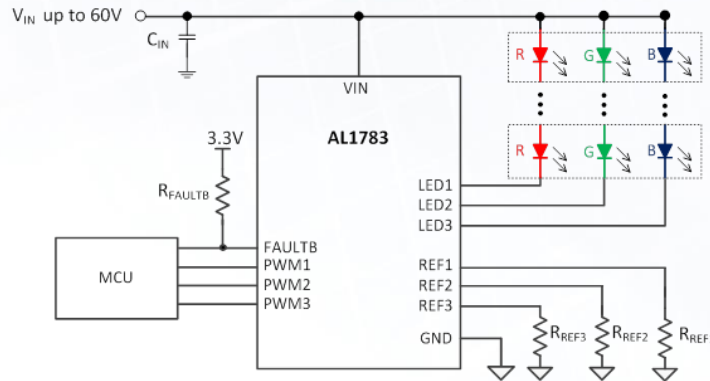
#### The Diodes Advantage

- **Wide input voltage range from 6.5V to 60V**  
Suitable 12/24/48V standard power rails applications
- **High output current accuracy and low dropout voltage**  
± 4% Current Accuracy Tolerance  
0.4V Regulation Voltage @  $I_{LED}=125mA$
- **Up to 250mA/channel LED output current – supports paralleling of channels for up to 750mA**  
Increased versatility
- **Three Independent fast (1kHz) PWM dimming and current setting**  
Supports wide dynamic dimming range RGB lamps, color tuning and/or multi-lamp systems
- **Comprehensive fault conditions reported**  
Under Voltage Lock Out (UVLO), LED Open/Short Protection, Over Temperature Protection (OTP)

#### Applications

- RGB Lighting
- Horticulture Lighting
- Architecture Lighting
- Industrial Lighting
- Commercial Lighting
- Connected Lighting

### Circuit Diagram



### Multi-channel Linear LED Driver Portfolio

Part Number	Min. Input Voltage	Max. Input Voltage	Max. Out put voltage	Channel Max. Out put Current	Number of channels	LED Current accuracy	Dimming method		Ambient temperature	Package Outline
	V	V	V	mA		+/- %	Analog	PWM	°C	
AL1794	6.5	30	30	375	4	2.5	Y	Y	-40 ~ +125	U-DFN4030-14
AL1782	6.5	30	30	375	2	4	-	Y	-40 ~ +105	TSSOP-16EP
AL1783	6.5	60	60	250	3	4	-	Y	-40 ~ +105	TSSOP-16EP

### Ordering Information

Device	Package Code	Packaging	13'' Tape and Reel	
			Quantity	Part Number Suffix
AL1783T16E-13	T16E	TSSOP-16EP	2500/Tape & Reel	-13

For further information:

<https://www.diodes.com/part/AL1783>