



New Product Announcement

AL1791/1792/
1793/1794

Single/Dual/Triple/Quad-Channel Current-Ratio-Optimized LED Driver with Analog and PWM Dimming

AL1791/1792/1793/1794 (AL179x series), are single/multi-channel LED drivers with analog and PWM dimming control targeted for Tunable White/Color Smart Lighting applications.

AL179x series serves as the LED driving element along with an AC-DC Power Conversion Block and Intelligent wireless MCU for emerging smart-connected lighting system configuration.

AL179x series enables cost-effectiveness, excellent dimming performance, low standby power, ease of system implementation and great scalability.

AL1791, AL1792, AL1793, and AL1794 are 1-channel, 2-channel, 3-channel and 4-channel LED drivers, respectively.

AL179x series is available in U-DFN4030-14 package.



The Diodes' Advantage

AL179x powered LED Driver/Emitter block adopts a multi-channel parallel LED driver structure with either analog or PWM dimming control for each channel to provide constant current regulation

■ **Linear Constant Current Regulation (CCR)**

Cost effective, Less EMI, Fast response time

■ **E-flicker Free High Frequency PWM with Deep Dimming**

10kHz down to 1.0%, 4kHz down to 0.4%, 1kHz down to 0.1%

■ **Ratio-Optimized Currents for 4 Independent LED Channels (AL1794)**

Suitable for Tunable White and Tunable Color light bulb design

■ **Integration of Low-Side Current Sink MOSFET**

Ease of dimming control

Applications

- 1-Channel Dimmable Smart Connected Light (SCL) Bulbs
- 2-Channel Tunable White SCL Bulbs
- 3-Channel Tunable White or Color SCL Bulbs
- 4-Channel Tunable White+Color SCL Bulbs
- Smart Connected LED Tubes, Panel Lights, Troffers, and Ceiling Lights



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Example of Smart Light Bulb and LED Panel Light System Configuration, Typical Application Schematic

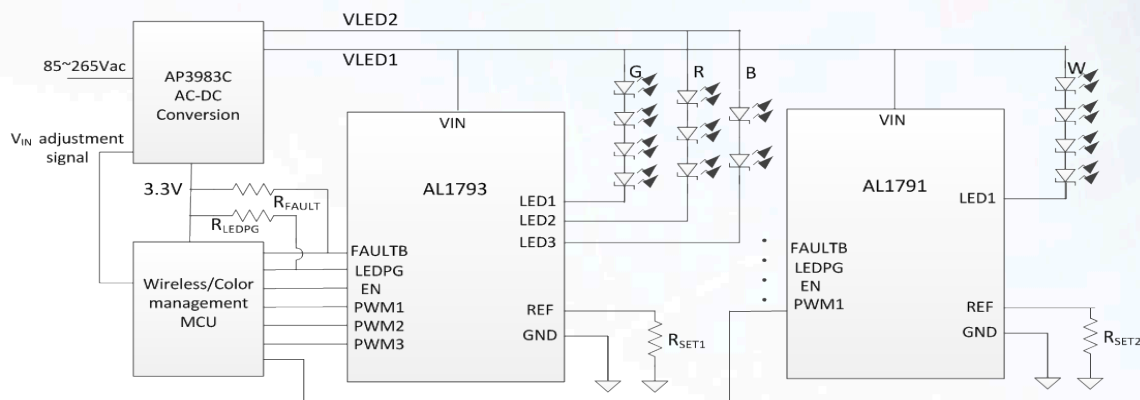


Figure 4-Channel White+Tunable RGB

Product Portfolio

Part	Min Input Voltage	Max Input Voltage	V _{DD} Max	Number of Regulated Output Channels	Recommended Output Current Max	LED Current Accuracy	Dimming		Supply Current	Temp Range
	V	V	V		A	%	PWM	Analog	mA	°C
AL1791	6.5	30	30	1	1.0	±2.5	Y	Y	2	-40~+125
AL1792	6.5	30	30	2	0.5/0.5	±2.5	Y	Y	2	-40~+125
AL1793	6.5	30	30	3	0.5/0.5/0.5	±2.5	Y	Y	2	-40~+125
AL1794	6.5	30	30	4	0.5/0.5/0.375/0.125	±2.5	Y	Y	2	-40~+125

Ordering Information

Part Number	I _{LED} ACCURACY, R _{SET} =12kΩ	Package Code	Packaging	Quantity	Reel size
AL1791AFE-13	±2.5%	FE	U-DFN4030-14	3,000/Tape & Reel	13
AL1792AFE-13	±2.5%	FE	U-DFN4030-14	3,000/Tape & Reel	13
AL1793AFE-13	±2.5%	FE	U-DFN4030-14	3,000/Tape & Reel	13
AL1794AFE-13	±2.5%	FE	U-DFN4030-14	3,000/Tape & Reel	13