



Backlight LED Drivers

Allegro MicroSystems offers a growing portfolio of devices used to drive LEDs for LCD panel backlighting and WLED Flash/torch. Both boost- and charge-pump architectures cover a wide variety of applications, with minimal external component requirements and high levels of integration. Allegro's backlight LED drivers are highly-integrated ICs with on-chip FETs, providing a small solution size. They also offer high performance and efficiency in small TDFN and TQFN packages ranging in size from 2 mm x 3 mm to 4 mm x 4 mm.



Features ▶

- Small packages
- Excellent matching
- Low quiescent current
- Charge pump and boost designs
- Multiple control methods

Benefits ▶

- Reduced solution size
- Uniform brightness
- Longer battery life
- More solution choices
- Flexible dimming control

Applications ▶

- Mobile phones
- Notebooks and desktop LDC panels
- Portable media players
- GPS/navigation systems
- Digital cameras

Product Specifications ▶

Part Number	Type	Dimming Type	Number of LEDs/String	Number of Strings	Configuration	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Peak Efficiency (%)	Diagnostic Capabilities*	Interface	Markets
A8430	Boost	PWM/analog	2-6	1	Series	2.5-10	36	25	87	TSD	PWM/analog	BL
A8431		PWM/analog	2-6	1	Series	2.5-10	32	25	87	TSD/OVM	PWM/analog	BL
A8480		PWM/analog	2-10	1	Series	2.7-9	23 (higher with split inductor)	250	90	TSD	PWM/analog	BL
A8481		PWM/analog	2-10	2	Series	2.7-9	23 (higher with split inductor)	250	90	TSD	PWM/analog	BL
A8500		PWM/analog	8-12	8	Series	5-25	47	25 x 8	92	TSD/OVM/LOD	Serial/PWM/analog	BL
A8504		PWM/analog	8-11	6	Series	5-25	47	40 x 8	92	TSD/OVM/LOD	Serial/PWM/analog	BL
A8435	Charge pump	PWM/analog	1	4	Parallel	2.7-5.5	6	30 x 4	92	TSD/OVM/LOD	Serial	BL
A8434		PWM/analog	1	6	Parallel	2.7-5.5	6	30 x 6	92	TSD/OVM/LOD	Serial	BL
A8530		PWM/analog	1	6	Parallel	2.7-5.5	6	30 x 4 and 100 x 2	92	TSD/OVM/LOD	Serial	BL

MARKETS LEGEND

CL COMMERCIAL LIGHTING FL FLASHLIGHTS TR TRANSPORTATION BL BACKLIGHTING SI SIGNAGE

*Diagnostic capabilities: TSD: Thermal shutdown, OVM: Output voltage monitoring, LOD: LED open detection



Single- and Multi-Channel Constant-Current Drivers for LED Displays, Signs, Architectural, and Automotive Lighting



Allegro MicroSystems offers a broad portfolio of LED drivers for signs, displays and decorative, entertainment lighting, and automotive lighting with a variety of features and channel counts and high-current outputs.

Features ▶

- Output currents up to 350 mA per channel
- 10-bit PWM per channel
- 7-bit current-control DACs for color calibration (dot correction)
- Open LED and shorted LED detection
- Thermal shutdown and undervoltage lockout
- Automotive voltage and temperature rating (A6260)

Benefits ▶

- Drive high-brightness LEDs
- Precise brightness control
- Accurate color balance and white point
- Remote diagnostics
- Full protection of driver IC

Applications ▶

- Full-color LED video displays
- Monochrome to full-color message and graphic displays
- Channel letter signs
- Architectural and decorative lighting
- Stage and entertainment lighting
- Automotive interior lighting
- Automotive exterior signal lighting



A6285 16-channel LED driver with dot correction and open LED detection in 5 mm x 5 mm QFN package

Product Specifications ▶

Part Number	Type	Dimming Type	Number of LEDs/String	Number of Strings	Configuration	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Peak Efficiency (%)	Diagnostic Capabilities*	Interface	Markets
A6285	Linear	Internal DAC/external PWM/external resistor	3	16	Series/parallel	3-5	13	80	NA	LOD/TSD/UVLO	Serial/PWM/analog	TR BL SI
A6279		External PWM/external resistor	4	16	Series/parallel	3-5	17	90	NA	LOD/TSD/UVLO	Serial/PWM/analog	TR BL SI
A6282		External PWM/external resistor	3	16	Series/parallel	3-5	13	50	NA	TSD/UVLO	Serial/PWM/analog	TR BL SI
A6278		External PWM/external resistor	4	8	Series/parallel	3-5	17	90	NA	LOD/TSD/UVLO	Serial/PWM/analog	TR BL SI
A6277		Logic input dims to 50%/external PWM or resistor	6	8	Series/parallel	5	24	150	NA	UVLO	Serial/PWM/analog	TR BL SI
A6280		Internal PWM/internal DAC/external resistor	4	3	Series/parallel	5-17	17	150	NA	TSD/UVLO	Serial/PWM/analog	CL TR BL SI
A6281		Internal PWM/internal DAC/external resistor	4	3	Series/parallel	5-17	17	150	NA	TSD/UVLO	Serial/PWM/analog	CL TR BL SI
A6260	Linear regulator	External PWM/analog	3	1	Series	6-40	Input-2.25V at 350 mA	350	NA	TSD/OVM (current foldback)	PWM or analog	CL TR

MARKETS LEGEND

CL COMMERCIAL LIGHTING FL FLASHLIGHTS TR TRANSPORTATION BL BACKLIGHTING SI SIGNAGE

*Diagnostic capabilities: TSD: Thermal shutdown, UVLO: Under voltage lock out, OVM: Output voltage monitoring, LOD: LED open detection

