



New Product Announcement

AL8862Q

55V, Automotive-Compliant, 1A Buck LED Driver with Fault Flag

The AL8862Q is a buck LED driver, driving single or multiple series-connected LEDs. Its hysteretic-mode control requires no external compensation, providing an inherently stable, low-component count, reduced total BOM cost solution.

The device includes an active-low open-drain fault indicator (FAULT) to report faulty status, improving overall system reliability.

The AL8862Q's wide 5V to 55V operating voltage exceeds usual automotive operating voltage ranges—including load dumps.

The integrated power switch and high-side output current sensing circuit supports LED currents up to 1A. Dimming is achieved by applying either a DC voltage signal or a PWM signal to the CTRL pin for user-adjustable brightness controls.

The AL8862Q is available in the thermally enhanced SO-8EP and V-DFN3030-8/SWP (Type A) packages.

Automotive-compliant - AEC qualified, manufactured in IATF 16949 certified sites supporting PPAP documents.

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The DIODES Advantage

The AL8862Q buck LED driver with fault flag provides a reliable cost-effective solution for automotive LED lamps.

- **Wide 5V to 55V Input Voltage Range**
Supports full automotive voltage range—including load dumps
- **Integrated 60V/0.4Ω Power MOSFET Supports 1A LED Current**
Minimizes board space and reduces BOM cost while maintaining high efficiency in high-power applications
- **Single Pin supporting PWM or Analog Dimming**
Flexible dimming mode selection and broad dimming range capability, allowing for user-adjustable LED brightness controls
- **Open-Drain Fault Flag Reports on LED-Open, Sense Resistor-Short, and Overtemperature Conditions**
Reports the status of LED driver and load conditions, improving reliability of overall system performance

Applications

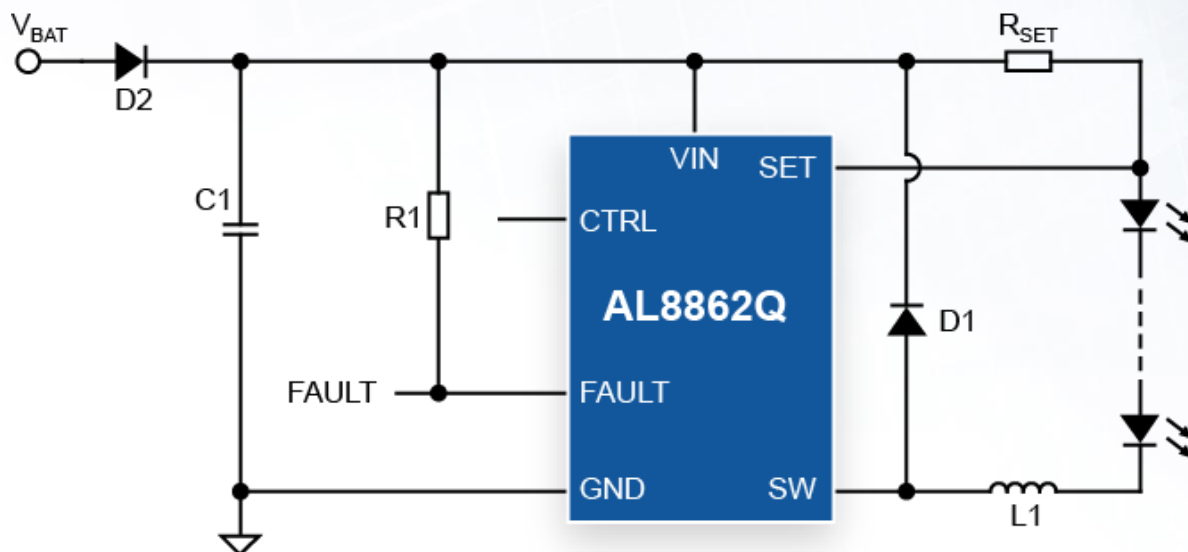
- Automotive interior LED lamps
- Automotive exterior LED lamps



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Typical Application



Product Portfolio

Part	Min Input Voltage	Max Input Voltage	Max LED Current	Accuracy	Max Switching Frequency	Hysteresis	Efficiency	Dimming		Inductor Current Limit	Sense Voltage	Fault flag	Temp Range	Package
	V	V	A	%	kHz	%	%	PWM	Analog	A	mV		°C	
AL8860Q	4.5	40	1.5	5	1000	20	>95	Y	Y	N	100	N	-40 ~ +125	MSOP-8EP
AL8861Q	4.5	40	1.5	5	1000	13	>95	Y	Y	Y	100	N	-40 ~ +125	MSOP-8EP
AL8843Q	4.5	40	3	5	1000	13	>95	Y	Y	N	100	N	-40 ~ +125	SO-8EP
AL8862Q	5	55	1	5	1000	13	>95	Y	Y	Y	100	Y	-40 ~ +125	SO-8EP V-DFN3030-8/SWP

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package	Moisture Sensitivity	Packing	
				Qty.	Carrier
AL8862QSP-13	Automotive	SO-8EP	MSL-1	2500	13" Tape & Reel
AL8862QFGEAW-7	Automotive	V-DFN3030-8/SWP (Type A)	MSL-1	1500	7" Tape & Reel