

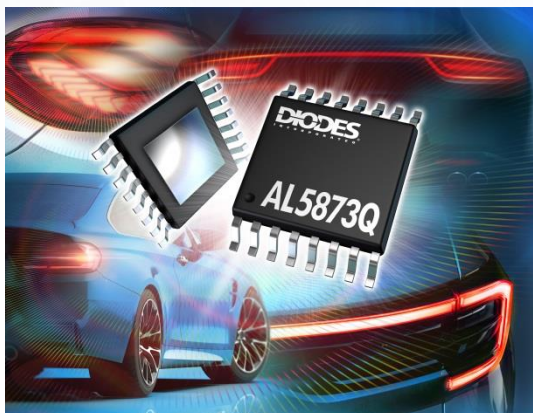
Low-Side, 3-Channel, Linear LED Driver Simplifies Automotive Rear-Cluster Lamps

The AL5873Q is an automotive-compliant*, 3-channel, linear LED driver with two LED output current settings to provide a simple solution for tail/brake light applications.

The LED currents (up to 250mA) of all three channels are set by two reference resistors connected to the REF1 and REF2 pins. The “FULL” pin selects either REF1 or REF2, thereby providing a simple solution for rear tail and brake lamps using the same LEDs.

Built-in thermal foldback reduces the LED current when junction temperature exceeds its pre-set temperature. In addition, a fault pin reports the device status and monitors input undervoltage lock-out (UVLO), open-/short-LED string, and overtemperature conditions.

The AL5873Q is available in the TSSOP-16EP package.



The Diodes Advantage

The AL5873Q provides a simple solution for combined tail/brake LED lights

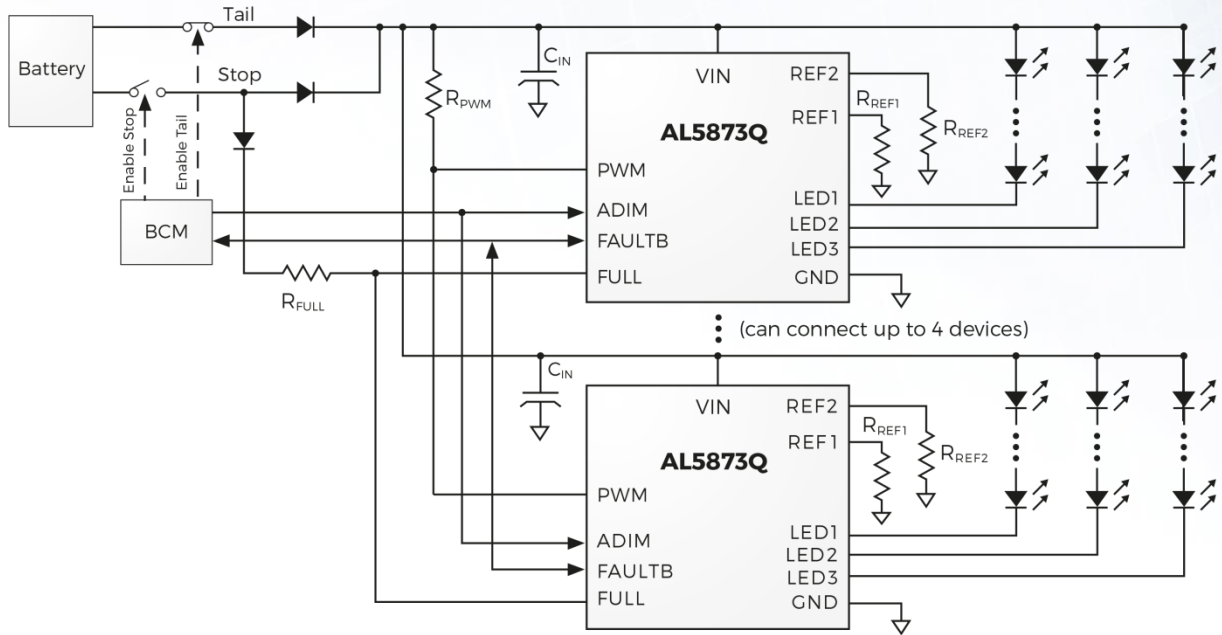
- **Wide input voltage range from 5V to 55V**
Works across automotive supply range with good line regulation
- **Two LED current levels—selectable and adjustable via two external resistors**
Lower BOM costs for tail and brake light combination applications
- **Good $\pm 4\%$ output current accuracy and low dropout voltage**
Better channel-to-channel matching within lamps, allowing more LEDs to drive in a series
- **High 250mA LED drive current capability with thermal foldback function**
Automatically reduces the LED current at high junction temperatures, which also reduces the likelihood of lamps flickering
- **Multiple protection features with open-drain fault pin reports:**
Input UVLO, open-/short-LED string, and overtemperature conditions
- **Bidirectional, open-drain fault pin allows up to four devices to have their fault pins connected together**
When one device has an error, all other devices will shut down

Applications

- Automotive Rear, Tail, and Stop Lights
- Turn-Signal Indicators
- Parking, Fog, and Reverse Lights

*Automotive compliant – AEC qualified in IATF 16949 certified manufacturing sites and supports PPAP documentation

Circuit Diagram



Automotive-Compliant Multi-Channel Linear LED Drivers

Part Number	Min. Input Voltage	Max. Input Voltage	Max. Output voltage	Channel Max. Output Current	Number of Channels	LED Current Accuracy	Dimming method		Ambient Temperature	Package Outline
	V	V	V	mA			+/- %	Analog		
AL5873Q	5	55	55	250	3	4	Y	Y	-40 ~ +125	TSSOP-16EP

Ordering Information

Device	Compliance	Package Code	Packaging	Moisture Sensitivity	13" Tape and Reel	
					Quantity	Part Number Suffix
AL5873QT16E-13	Automotive (AEC-Q100 Grade 1)	T16E	TSSOP-16EP	MSL-1	2500	-13