



# New Product Announcement

## AL1783Q

### Three-Channel Linear LED Driver with Three Independent PWM Dimming Controls

The AL1783Q is a three-channel, automotive-compliant, linear LED driver with three independent PWM dimming and current setting controls for each channel.

The AL1783Q is a cost-effective solution for automotive LED driving, providing excellent PWM dimming performance, low standby power, and ease of system implementation.

The device offers up to 250mA output current per channel, and withstands up to 55V input and LED pin operating voltage.

The AL1783Q is available in the thermally efficient TSSOP-16EP package.



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

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#### The DIODES Advantage

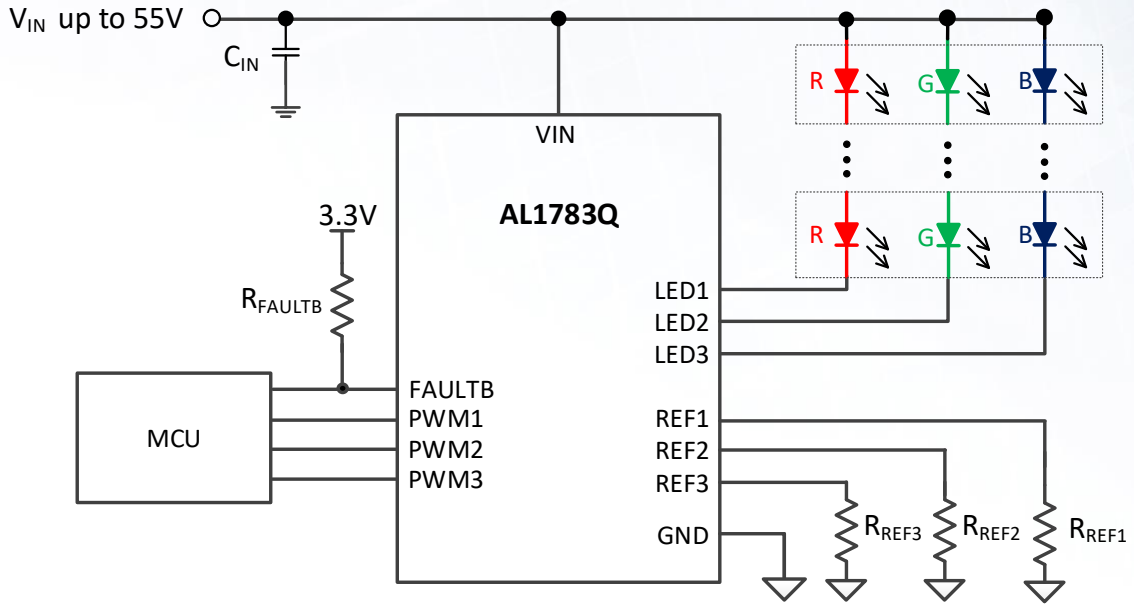
The AL1783Q is a linear LED driver that provides a reliable cost-effective solution for automotive LED lamps.

- **Wide 6.5V to 55V Input Voltage Range**  
Supports full automotive voltage range—including load dumps
- **Current Setting for Each Channel Set by External Resistors**  
Enables each output current to be individually set
- **Independent PWM Dimming for Each Channel**  
Supports PWM dimming down to 1% with good dimming linearity, even at 1kHz
- **Up to 250mA Output Current per Channel**  
Provides  $\pm 4\%$  LED current tolerance @125mA
- **Comprehensive Open-Drain Fault Flag Pin Report Includes Undervoltage Lock Out (UVLO), Open/Short LED Protection, Overtemperature Protection (OTP)**  
Improves system robustness

#### Applications

- Daytime running lamps
- Position lamps
- Fog lamps
- Stop or tail lamps
- Interior lamps
- Rear lamps

### Typical Application



### Automotive-Compliant High-Current Linear LED Drivers

Part Number	Min. Input Voltage	Max. Input Voltage	Max. Output Voltage	Channel Max. Output Current	Number of Channels	LED Current Accuracy	Analog Dimming Supported	Number of Independent Channels	Ambient Temp.	Package
	V	V	V	mA		±%			°C	
<a href="#">AL1783Q</a>	6.5	55	55	250	3	4	-	3	-40 to +125	TSSOP-16EP
<a href="#">AL5871Q</a>	5	55	55	750	1	4	Y	1	-40 to +125	TSSOP-16EP
<a href="#">AL5873Q</a>	5	55	55	250	3	4	Y	1	-40 to +125	TSSOP-16EP

### Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package	Moisture Sensitivity	Packing	
				Quantity	Carrier
<a href="#">AL1783QT16E-13</a>	<a href="#">Automotive</a>	TSSOP-16EP	MSL-1	2,500	13" Tape & Reel