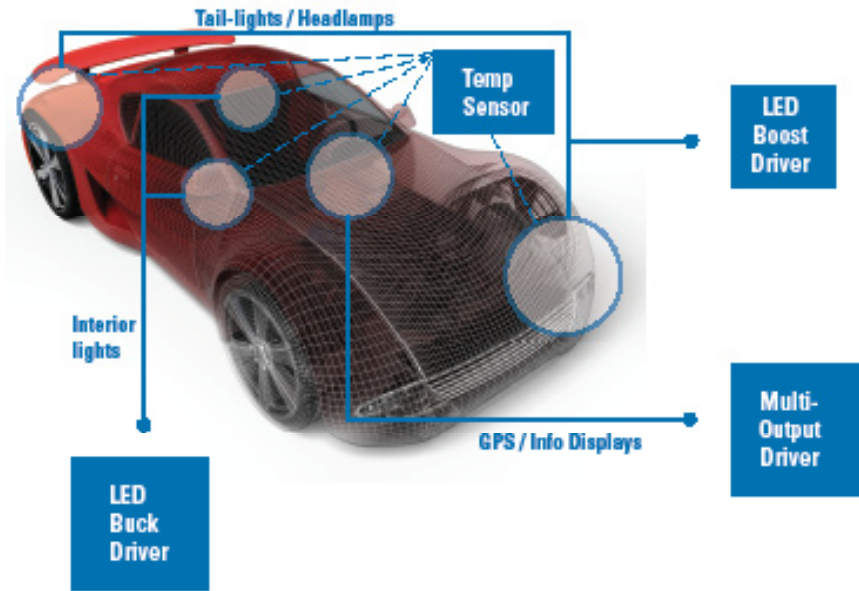


# Automotive Lighting Solutions

## Automotive LED Lighting



### Introduction

National's family of PowerWise® high-brightness LED drivers power the latest of 1W to 5W high-brightness LEDs found in automotive applications. These LED drivers provide a wide-input voltage range, constant current to regulate LED brightness, a low-feedback voltage to minimize power dissipation and zero shutdown current to maximize efficiency. Furthermore, National's portfolio offers dimming, protection, and thermal control features suitable for a wide range of automotive lighting applications.

Tools such as reference designs, application notes, and National's WEBENCH® LED Designer online tool allow for quick and easy selection and simulation of a complete LED and LED driver solution.

National also offers a range of amplifiers and thermal management solutions that monitor lighting systems to ensure reliability and robustness.

See all National's automotive products and solutions at: [national.com/automotive](http://national.com/automotive)

### LED Drivers for Lighting

Application	Recommended LED Driver	Benefit
Exterior lighting (forward lighting, DTR, fog, RCL)	LM3423/33	Fault monitoring capability and/or zero current shutdown and/or high side dimming
	LM3421	Zero current shutdown and/or high side dimming
Interior lighting (dome light, instrumentation)	LM3421/23	High efficiency, flexibility (3 or more LEDs per string)
	LM3401/02/04/06	High efficiency, flexibility (3 or more LEDs per string)
Infotainment backlighting	LM3410	Efficiency
	LM3431	<100:1 contrast ratio

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## Portfolio of AECQ-100 Qualified Temperature Sensors for Lighting

Part	Description
LM94022Q	Low voltage analog temperature sensor
LM95235Q	Remote diode temperature sensor with TruTherm®
LM27	High temp (120-150°C)
LM95172QA	High accuracy, high temp digital temperature sensor
LM71A	General purpose digital temperature sensor
LM95071	General purpose digital temperature sensor

### Design Tools and Collateral



Design, build, and test analog circuits in this FREE online design and prototyping environment.



National's monthly analog design technical journal featuring application notes



Published bi-monthly, Signal Path Designer technical articles cover analog signal path tips and techniques for today's design engineers.



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1 800 272 9959

**Mailing address:**  
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Published bi-monthly, Power Designer technical articles cover key power design tips and techniques for today's design engineers.

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