The AL5892 is an offline TRIAC dimmable linear LED driver with smart bleeder operation. It is compliant with EMI standards without requiring extra special EMI components.

With its built-in innovative efficiency compensation circuitry, the AL5892 operates at up to 85% efficiency (driving a single high-voltage LED chain) and maintains a >0.7 power factor.

Optimized to work with 120V<sub>AC</sub> TRIAC dimmers with extremely low external BOM count, the AL5892 has a dimming curve compliant with NEMA SSL7.

AL5892’s closed-loop control regulates the LED current variation within 2% across all line or load voltage changes.

The AL5892 has abundant protection features, such as LED open/short protection (OSP), thermal foldback protection (TFP), and overtemperature shutdown protection (OTP).

It is available in SO-8EP package.

**Applications**
- LED Retrofit Bulbs
- TRIAC Dimmable LED Lamps
- LED Lighting Luminaires

**The DIODES’ Advantage**

- **Integrated Main Power 350V MOSFET and Bleeder 500V MOSFET**
  Reduced PCB size and BOM cost

- **Wide Dimmer Compatibility**
  Supports popular 120V<sub>AC</sub> TRIAC dimmers with dimming curve compliant with NEMA SSL7

- **Simple and Low EMI with Linear Topology**
  No inductor, linear driver easily meets EMI standard

- **High-Efficiency and High-Power Factor Operation**
  Innovative compensation method provides up to 85% efficiency with power factor >0.7 to meet Energy Star® requirements.

- **Robust Protection Features**
  LED open/short protection (OSP), thermal foldback protection (TFP), and overtemperature shutdown protection (OTP)

**ENERGY STAR** and the ENERGY STAR mark are registered trademarks owned by the U.S. Environmental Protection Agency.
**New Product Announcement**

**AL5892**

**Typical Application**

![Typical Application Diagram](image)

**Diodes’ High-Voltage Linear LED Drivers**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Min Input Voltage</th>
<th>Max Input Voltage</th>
<th>Accuracy</th>
<th>Efficiency</th>
<th>Operating Temp Range</th>
<th>Power Factor</th>
<th>Max Output Current</th>
<th>Dimming</th>
<th>Topology</th>
<th>Package Outline</th>
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<tr>
<td>AL5890</td>
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<td>265</td>
<td>±10</td>
<td>85</td>
<td>-40 to +105</td>
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<td>40</td>
<td>No</td>
<td>Linear</td>
<td>PowerDi123/ SOT89/ TO252</td>
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<tr>
<td>AL5892</td>
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<td>132</td>
<td>±4</td>
<td>&gt;82</td>
<td>-40 to +105</td>
<td>&gt;0.7</td>
<td>100</td>
<td>TRIAC</td>
<td>Linear</td>
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**Ordering Information**

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<thead>
<tr>
<th>Part Number</th>
<th>Package Code</th>
<th>Package</th>
<th>Tape and Reel</th>
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<tbody>
<tr>
<td>AL5892SP-13</td>
<td>SP</td>
<td>SO-8EP</td>
<td>4000/Tape &amp; Reel -13</td>
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</tbody>
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For more information: [https://www.diodes.com/part/AL5892](https://www.diodes.com/part/AL5892)