Programmable Dimming Boost LED Driver with Integrated 30V Schottky and MOSFET

The AL3050 is a current-mode Boost LED driver with programmable brightness dimming control for portable devices.

Its integrated 30V power switch MOSFET and Schottky diode enables the AL3050 to drive up to 8 LEDs in a series. The small solution size, advanced dimming features, and high efficiency make it ideal for LED backlighting in single cell Li-ion portable equipment.

The AL3050 has both PWM dimming and single-wire digital dimming modes for accurate LED current control from one pin.

The AL3050 includes multiple protection functions including UVLO/OVP/OCP/OTP to protect the circuit.

The AL3050 is available in the small footprint U-DFN2020-6 (Type S) package.

Small overall footprint backlight driving solution for small screen portable equipment

- Integrated 30V/0.56Ω MOSFET and Schottky diode
  Only 4 external components reducing footprint of solution

- Supports both PWM dimming and Single-Wire control interface
  Flexible digital and PWM brightness control

- Up to 100:1 PWM dimming ratio
  Deep dimming range

- Robust protection features: detects short/Open LED, plus LED open/System start current limit, and OCP/OVP/OTP
  Improves reliability and robustness of system performance

Applications

- Tablets
- GPS
- Smart Phones
Product Portfolio

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Min. Input Voltage</th>
<th>Max. Input Voltage</th>
<th>Min. Open LED Voltage</th>
<th>MOSFET Current limit (Typ.)</th>
<th>Reference Voltage Accuracy</th>
<th>Switching Frequency</th>
<th>Efficiency</th>
<th>Rectifier Diode</th>
<th>Max. Shutdown Supply Current</th>
<th>Ambient Temperature Range</th>
<th>Package Outlines</th>
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<tbody>
<tr>
<td>AL3050</td>
<td>2.7</td>
<td>5.5</td>
<td>26</td>
<td>700</td>
<td>3</td>
<td>750</td>
<td>&gt; 85</td>
<td>PWM and Single wire</td>
<td>Int.</td>
<td>-40~ +85</td>
<td>UDFN2020-6</td>
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<td>Ext.</td>
<td>-40~ +85</td>
<td>SOT26 TSOT26 UDFN2020-6</td>
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<td>550</td>
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<td>PWM and external DC</td>
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Ordering Information

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<th>Part Number</th>
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<td>FDC</td>
<td>U-DFN2020-6 (Type S)</td>
<td>3,000/Tape &amp; Reel</td>
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