

## Product Overview

### NSIC2050B: LED Driver, Constant Current Regulator, for A / C Offline Applications

For complete documentation, see the data sheet.



The linear constant current regulator (CCR) is a simple, economical and robust device designed to provide a cost-effective solution for regulating current in LEDs (similar to Constant Current Diode, CCD). The CCR is based on Self-Biased Transistor (SBT) technology and regulates current over a wide voltage range. It is designed with a negative temperature coefficient to protect LEDs from thermal runaway at extreme voltages and currents. The CCR turns on immediately and is at 20% of regulation with only 0.5 V V<sub>ak</sub>. It requires no external components allowing it to be designed as a high or low-side regulator. The 120 V anode-cathode voltage rating is designed to withstand the high peak voltage incurred in A/C offline applications. The high anode-cathode voltage also protects surges common in Industrial and Commercial Signage applications. The CCR comes in thermally robust packages and is UL94-V0 Certified.

#### Features

- Robust Power Package: 2.3 W, Wide operating voltage range, Immediate turn on, Voltage surge suppressing protecting LEDs, UL94-V0 Certified, SBT (Self Biased Transistor) Technology, Negative Temperature Coefficient, Also available in 30 mA (NSIC2030BT1G) and 20 mA (NSIC2020BT1G), These devices are PB-Free, Halogen Free/BFR Free and are RoHS Compliant

#### Applications

- LED Drive, Battery Charging.

#### Benefits

- High or Low side control, Simple Battery Charge, Reduce LED binning and therefore inventory, NO EMI

#### End Products

- Architectural lighting - Decorative, Task, Exterior, Strip, Under Counter & Landscape. Display & Signage - Channel letters, Display backlighting, Neon bulb replacements, LED stripes & modules. Computing and Industrial - Indicator lamps, Backlights, Appliance lighting.
- Automotive Applications - Consult Factory

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

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