

Product Overview

NSI45090JD: LED Driver, Adjustable Constant Current Regulator, 45 V, 90 - 160 mA

For complete documentation, see the data sheet.

The adjustable 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_{ak} . The Radj pin allows $I_{reg(SS)}$ to be adjusted to higher currents by attaching a resistor between Radj (Pin 3) and the Cathode (Pin 4). The Radj pin can also be left open (No Connect) if no adjustment is required. It requires no external components allowing it to be designed as a high or low-side regulator. The high anode-cathode voltage rating withstands surges common in Automotive, Industrial and Commercial Signage applications. This device is available in a thermally robust package, which is lead-free RoHS compliant and uses halogen-free molding compound. Meets AEC-Q101 standard and UL94-V0 certified.

Features

- Robust Power Package: 2.7 Watts, Adjustable up to 160 mA, Wide Operating Voltage Range, Immediate Turn-On, Voltage Surge Suppressing - Protecting LEDs, UL94V0 Certified, SBT (SelfBiased Transistor) Technology, Negative Temperature Coefficient, Eliminates Additional Regulation, These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant.
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable

Benefits

- High or Low side control

Applications

- LED Drive, Battery Charging, Contact Wetting

End Products

- Automotive - Cluster & Central Console Backlighting, Navigation/Audio Systems, Vanity Mirror Light, Car Door Puddle Light, Ambience Lighting, CHMSL, Turn Signals, Side Repeaters, Tail Lamps, Brake Lighting, Trailer lights & Contact Wetting. Display & Signage - Channel letters, Display backlighting, Neon bulb replacements, LED stripes & modules. Architectural lighting Decorative, Task, Exterior, Landscape & Under counter. Computing and Industrial Indicator lamps, Backlights

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	V_I Max (V)	I_O Max (mA)	LEDs in Series, Max #	LEDs in Parallel, Max #	Package Type
NSI45090JDT4G	0.308	Pb-free	Active	45	160	80	16	DPAK-3
NSV45090JDT4G	0.34	AEC Qualified PPAP Capable Pb-free Halide free	Active	45	160	80	16	DPAK-3

For more information please contact your local sales support at www.onsemi.com.

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