



Product Overview

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NSI50010YT1G: 50 V, 10 mA ± 30%, 460 mW package, CCR SOD-123

For complete documentation, see the [data sheet](#)

Product Description

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. The CCR is based on patent-pending 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. <P>The CCR turns on immediately and is at 40% of regulation with only 0.5 V Vak. 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. The CCR comes in thermally robust packages and is qualified to AEC-Q101 standard.

Features

- Robust Power Package: 460 mW, Wide operating voltage range, Immediate turn on Voltage surge suppressing protecting LEDs, AEC-Q101 qualified, SBT (Self Biased Transistor) Technology, Negative Temperature Coefficient, This device is Pb-Free, Halogen Free/BFR Free and is RoHS Compliant

Applications

- LED Drive, Battery Charging, Contact Wetting
- 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

Selected Electrical Specifications

Symbol	Boundary	Value	Unit	Condition
V _I	max	50	V	
I _o	max	10	mA	10 mA ± 30% (@ 25C)
Topology		Linear		
Number of White LEDs in Series		80		V _{in} = 240 VAC

Package Availability

Type	Pb-free	Standard
SOD-123 2 LEAD	✓	

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