Product Overview

NCS5650: PLC Line Driver, 2 A

For complete documentation, see the data sheet

Product Description

The NCS5650 is a high efficiency, Class A/B, low distortion power line driver. Its design is optimized to accept a signal from a Power Line Carrier modem. The output stage is designed to drive up to 2 A peak into an isolation transformer or simple coil coupling to the mains. At output current of 1.5 A, the output voltage is guaranteed to swing within 1 V or less of either rail giving the user improved SNR. Power supply options are single-sided 6 V to 12 V and dual balanced ±3.0 V to ±6.0 V. The input stage contains an operational amplifier which can be configured as a unity gain follower buffer or used to provide the first stage of a 4-pole low pass filter. In addition the NCS5650 offers a current limit programmable with a single resistor, R-Limit, together with a current limit flag. The device provides two independent thermal flags with hysteresis: a thermal warning flag to let the user know the internal junction temperature has reached a user programmable thermal warning threshold and a thermal error flag that indicates the internal junction temperature has exceeded 150°C. In shutdown mode the NCS5650 output goes into a high-impedance state. The NCS5650 comes in a 20 lead QFN package (4x4x1mm) with an exposed thermal pad for enhanced thermal reliability.

Features

- Rail-to-Rail Drop of Only ±1 V with I_{out} = 1.5 A
- V_{CC}: Single-Sided (6 V to 12 V) or Dual-Balanced ±6.0 V
- Flexible 4th-Order Filtering
- Current-Limit Set with One Resistor
- Diagnostic Flags Level Shifted to $V_{\mu c}$ to Simplify Interface with External MCU
- Enable/Shutdown Control
- Extended Junction Temperature Range: -40°C to +125°C
- Small Package: 20-pin 4x4x1mm QFN with Exposed Thermal Pad
- Optimized for Operation in the Cenelec A to D Frequency Band

Applications

- Power Line Communication Driver in AMM and AMR Metering Systems
- Valve, Actuator, and Motor Driver

End Products

- Smart Electric Meters

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

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