PMIC 3.5A TEC Controller

Manufacturers	Analog Devices, Inc
Package/Case	LFCSP-36
Product Type	Power Management ICs
RoHS	
Lifecycle	

Images are for reference only

Please submit RFQ for ADN8835ACPZ-R7 or Email to us: sales@ovaga.com We will contact you in 12 hours.   RFQ

General Description

The ADN8835 is a monolithic TEC controller with an integrated TEC controller. It has a linear power stage, a pulse-width modulation (PWM) power stage, and two zero-drift, rail-to-rail chopper amplifiers. The linear controller works with the PWM driver to control the internal power MOSFETs in an H bridge configuration. By measuring the thermal sensor feedback voltage and using the integrated operational amplifiers as a proportional integral differential (PID) compensator to condition the signal, the ADN8835 drives current through a TEC to settle the temperature of a laser diode or a passive component attached to the TEC module to the programmed target temperature.

The ADN8835 supports negative temperature coefficient (NTC) thermistors as well as positive temperature coefficient (PTC) resistive temperature detectors (RTDs). The target temperature is set as an analog voltage input either from a digital-to-analog converter (DAC) or from an external resistor divider.

The temperature control loop of the ADN8835 is stabilized by PID compensation utilizing the built in, zero-drift chopper amplifiers. The internal 2.50 V reference voltage provides a 1% accurate output that biases a thermistor temperature sensing bridge as well as a voltage divider network to program the maximum TEC current and voltage limits for both the heating and cooling modes. With the zero-drift chopper amplifiers, excellent long-term temperature stability is maintained via an autonomous analog temperature control loop.

Features

High efficiency single inductor architecture

Integrated low RDSON MOSFETs for the TEC controller

TEC voltage and current operation monitoring

No external sense resistor required

Independent TEC heating and cooling current-limit settings

Programmable maximum TEC voltage

2.0 MHz (typical) PWM driver switching frequency

External synchronization

Two integrated, zero-drift, rail-to-rail chopper amplifiers

Compatible with NTC or RTD thermal sensors

2.50 V reference output with 1% accuracy

Temperature lock indicator

Available in a 36-lead, 6 mm × 6 mm LFCSP

Application
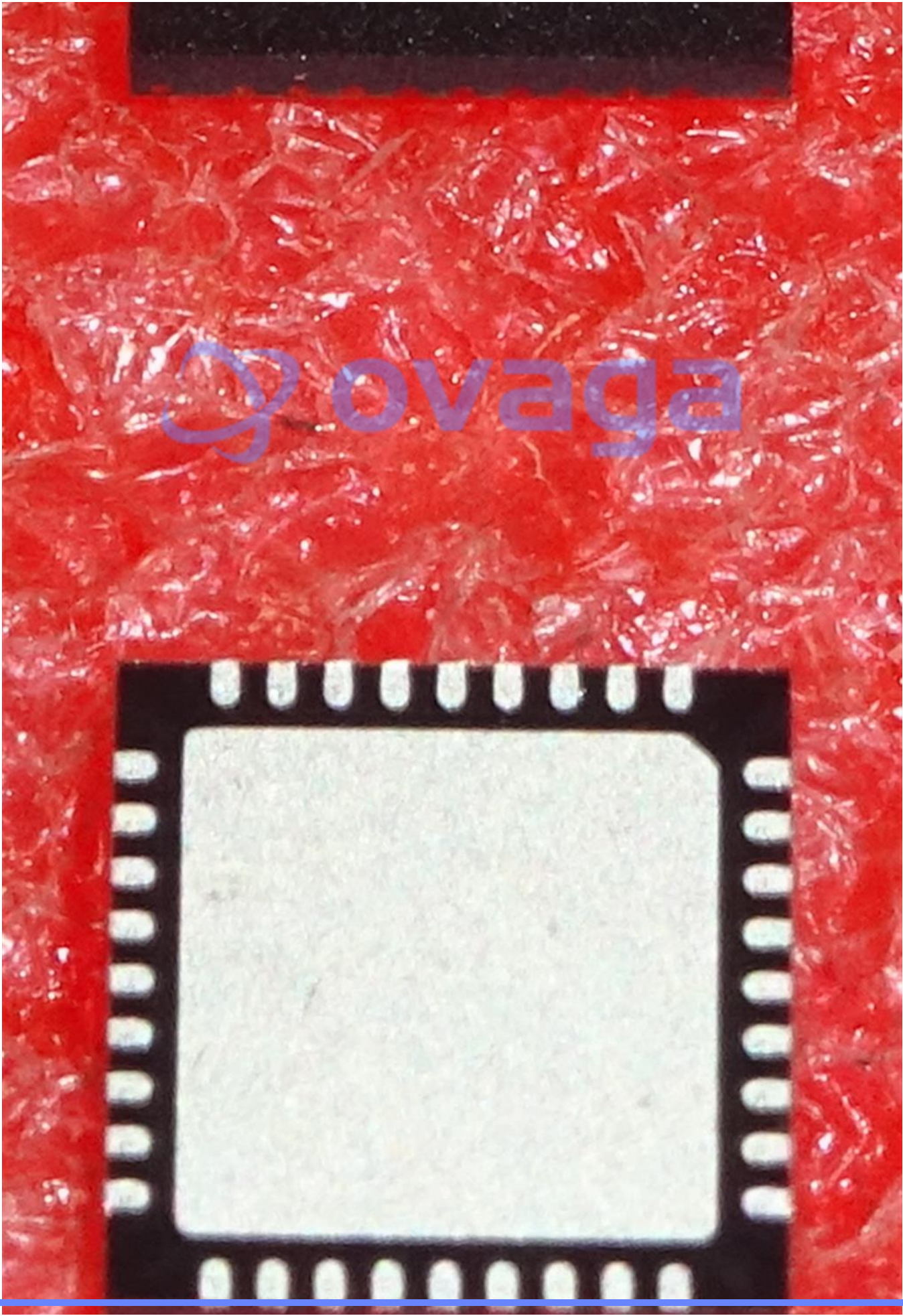
TEC temperature control

Optical modules

Optical fiber amplifiers

Optical networking systems

Instruments requiring TEC temperature control

Related Products

ADP3336ARMZ-REEL7

Analog Devices, Inc

MSOP-8

AD737JRZ

Analog Devices, Inc

SOP-8

ADP3367ARZ

Analog Devices, Inc

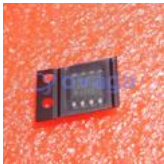SOIC-8

AD636JH

Analog Devices, Inc

TO-100-10

ADP3330ARTZ3.3-RL7

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SOT-23-6

ADR434BRZ

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ADR421ARZ

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ADR3412ARJZ-R7

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