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A8296 Single LNB Supply and Control Voltage Regulator

Contact [Allegro Marketing](#) for datasheet.

Features

- Integrated boost MOSFET, current sensing, and compensation
- Supplies up to 500 mA continuously
- Adjustable LNB output current limit from 300 to 500 mA
- Boost peak current limit scales with LNB current limit setting
- 8 programmable LNB output voltage (DAC) levels
- LNB overcurrent limiter with shutdown timer
- Tracking boost converter minimizes power dissipation
- LNB transition times configurable by external capacitor
- Push-pull LNB output stage maintains 13→18 V and 8→13 V transition times, even with highly capacitive loads
- Built-in 22 kHz tone oscillator facilitates DiSeqC™ tone encoding, even at no-load
- Tone generation does not require additional external components
- Diagnostic features: PNG
- Extensive protection features: UVLO, OCP, TSD, CPOK
- 2-wire I2C-compatible interface

Description

Intended for analog and digital satellite receivers, this single low noise block converter regulator (LNBR) is a monolithic linear and switching voltage regulator, specifically designed to provide the power and the interface signals to an LNB down converter via coaxial cable. The A8296 requires few external components, with the boost switch and compensation circuitry integrated inside of the device.

The A8296 has been designed for high efficiency, utilizing the Allegro® advanced BCD process. The integrated boost switch has been optimized to minimize both switching and static losses. To further enhance efficiency, the voltage drop across the tracking regulator has been minimized.

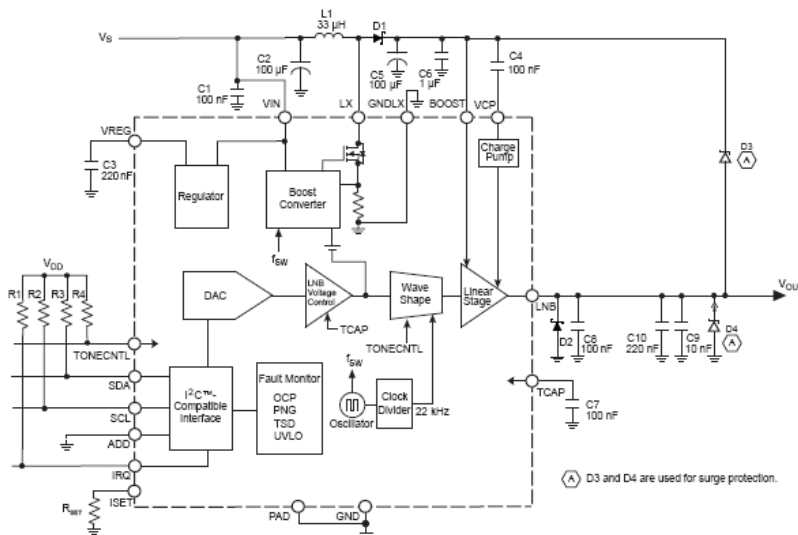
For DiSeqC™ communications, a tone control pin is provided to gate the internally-generated 22 kHz tone on-and-off.

A comprehensive set of fault registers are provided, which comply with all the common standards, including: overcurrent, thermal shutdown, undervoltage, and power not good. Furthermore, design methodology and structure ensure the highest level of robustness against transients and component failures.

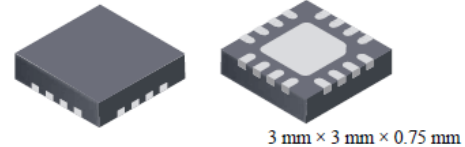
The device uses a 2-wire bidirectional serial interface, compatible with the I2C™ standard, that operates up to 400 kHz.

The A8296 is supplied in a lead (Pb) free package.

Functional Block Diagram



Package: 16-contact MLP/QFN (suffix ES)



3 mm × 3 mm × 0.75 mm

Complete Part Numbers

Part Number	Package Type	RoHS Compliant	Part Composition/ RoHS Data	Temperature	Comments	Samples/Demo	Distributor Stock
A8296SESTR-T	16-lead QFN	Yes	view data	-20 °C to 85 °C	<i>new</i>	Contact Local Sales Representative or check distributor stock	All <input type="button" value="Check Stock"/>

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