



Dual LNB Supply and Control Voltage Regulator

Contact [Allegro Marketing](#) for datasheet.

Features

- Integrated boost MOSFET, current sensing, and compensation
- Supplies up to 550 mA per channel, continuously
- Supplies up to 700 mA per channel, for reconfiguration
- Supplies up to 950 mA total from both channels, continuously
- Supplies up to 1100 mA total from both channels, for reconfiguration
- Adjustable LNB output current limit from 300 to 800 mA
- Boost peak current limit scales with LNB current limit setting
- 8 programmable LNB output voltage (DAC) levels
- LNB overcurrent limiter with shutdown timer
- Static LNB current limit reliability starts a wide range of loads
- Tracking boost converter minimizes power dissipation
- LNB transition times programmable by external capacitor
- Push-pull LNB output stage maintains 13-to-18 V and 18-to-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 tone detect amplitude and frequency transmit/receive thresholds
- **Extensive** protection features: UVLO, OCP, TSD, and CPWK
- RESET input disables the LNB and resets control registers to the 0 state for fast load shedding 2-wire I2C™-compatible interface
- Small low-profile 5 mm × 5 mm, 0.90 mm OFN-28 package

Description

Intended for analog and digital satellite receivers, this dual 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 A8297 requires few external components, with the boost switch and compensation circuitry integrated inside of the device. A high switching frequency is chosen to minimize the size of the passive filtering components, further assisting in cost reduction. The high levels of component integration ensure extremely low noise and ripple figures.

The A8297 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.

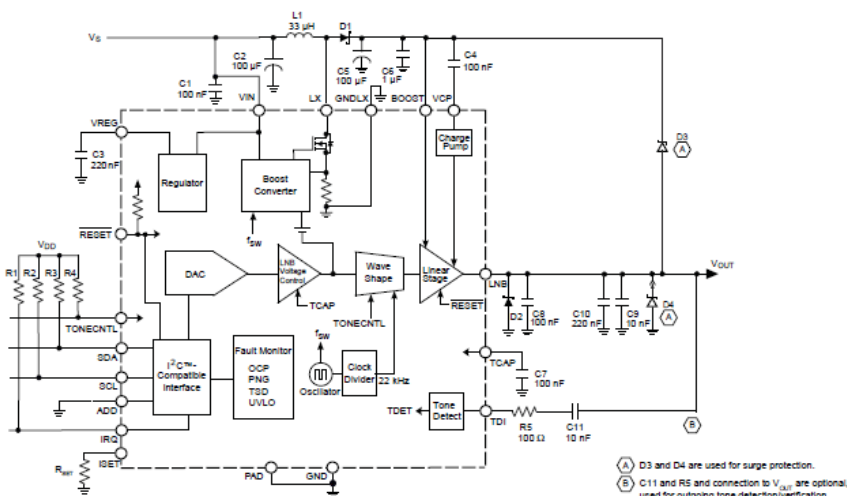
For DiSeqC™ communications, a tone control pin is provided to gate the internally-generated 22 kHz tone on-and-off.

A comprehensive set of fault registers are provided, which comply with all the common standards, including: overcurrent, thermal shutdown, undervoltage, and power not good.

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

The A8297 is supplied in a lead (Pb) free package.

Functional Block Diagram



Complete Part Numbers							
Part Number	Package Type	RoHS Compliant	Part Composition/ RoHS Data	Temperature	Comments	Samples/Demo	Distributor Stock
A829TSETTR-T	28-lead QFN	Yes	view data	-20 °C to 85 °C	new	Contact Local Sales Representative or check distributor stock	All ☐ Check Stock
APEK829TSES-01-T	DEMO BOARD	No	--	-20 °C to 85 °C	new	Contact Local Sales Representative	

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