A8305: Single LNB Supply and Control Voltage Regulator

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 A8305 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 A8305 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 A8305 is supplied in a lead (Pb) free package.

FEATURES & BENEFITS | PACKAGING | TECHNICAL DOCS | NEWS

- Integrated boost MOSFET, current sensing, and compensation
- Stable with low-profile ceramic boost capacitors
- New 15.67 V output setting to accommodate designs in the Japan market
- Adjustable LNB output current limit from 250 to 950 mA
  - Covers wide array of application requirements
  - Minimizes component sizing to fit each application
  - For startup, reconfiguration, and continuous output (maximum value depends on PCB thermal design)
- 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 reliably starts a wide range of loads
- Tracking boost converter minimizes power dissipation
- LNB transition times configurable by external capacitor
- Push-pull LNB output stage maintains 13→18 V and
- 18→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

Product Photo

Click the image to view larger

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Part Number Specifications and Availability

Part Number	Package Type	Temperature	RoHS Compliant	Part Composition / RoHS Data	Comments	Samples	Check Distributor Stock
A8305SESTR-T	16-lead QFN	-20°C to 85°C	Yes	View Data			Check Stock

Part Number	Package Type	Temperature	RoHS Compliant	Part Composition / RoHS Data	Comments	Samples	Check Distributor Stock
						Contact your local sales rep	
APEK8305SES-01-MH	DEMO BOARD	-20°C to 85°C	No	--		Contact your local sales rep	Check Stock

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