

PRODUCT BRIEF

LTC4266

Quad IEEE 802,3at Power Over Ethernet Controller

FEATURES

- Four Independent PSE Channels
- Compliant with IEEE 802.3at Type 1 and 2
- 0.34Ω Total Channel Resistance
 130mW/Port at 600mA
- Advanced Power Management

8-Bit Programmable Current Limit (I_{LIM})
7-Bit Programmable Overload Currents (I_{CUT})
Fast Shutdown of Preselected Ports
14.5-Bit Port Current/Voltage Monitoring
2-Event Classification

- Very High Reliability 4-Point PD Detection:
 - 2-Point Forced Voltage
 - 2-Point Forced Current
- High Capacitance Legacy Device Detection
- LTC4259A-1 and LTC4258 Pin and SW Compatible
- Supports 2-Pair and 4-Pair Output Power
- 1MHz I²C Compatible Serial Control Interface
- Midspan Backoff Timer
- Supports Proprietary Very High Power Up to 100W
- Available in 38-Pin 5mm × 7mm QFN, and 36-Pin SSOP Packages

APPLICATIONS

- PoE PSE Switches/Routers
- PoE PSE Midspans

DESCRIPTION

The LTC®4266 is a quad Power Sourcing Equipment (PSE) controller designed for use in IEEE 802.3 Type 1 and Type 2 (high power) compliant Power over Ethernet (PoE) systems. The LTC4266 delivers lowest-in-industry heat dissipation by utilizing low R_{on} external MOSFETs and 0.25Ω sense resistors, eliminating the need for expensive heat sinks. External MOSFETs also provide a more robust solution compared to integrated MOSFETs.

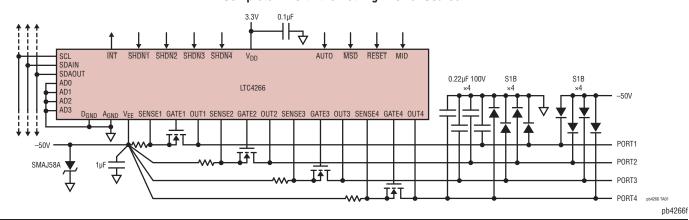
Advanced power management features include: selectable high speed 9.5-bit (1kHz) or high resolution 14.5-bit current and voltage readback, a 7-bit DAC for overcurrent (I_{CUT}), a unique nonlinear 8-bit programmable current limit (I_{LIM}) and versatile quick shutdown of preselected ports. PD Discovery uses a proprietary dual-mode 4-point detection mechanism ensuring the best immunity from false PD detection. Midspan PSEs are supported with 2-event classification and a two second backoff timer. Legacy high-capacitance device detection is available. The LTC4266 includes an I^2C serial interface operable up to 1MHz.

The LTC4266 is also a good choice for proprietary PoE PSE systems which may require more power than the new IEEE 802.3at standard allows. The LTC4266 can source up to 100W (4-pair) while otherwise remaining 100% compliant with IEEE 802.3at.

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TYPICAL APPLICATION

Complete 4-Port Ethernet High Power Source

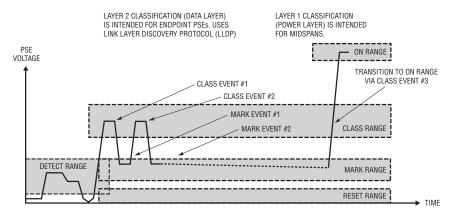


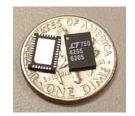


BENEFITS

- Lowest Channel Resistance Eliminates Heat Sinks
- Damaged Channels Do Not Affect Adjacent Channels
- Smallest-in-Industry Package for a Quad PSE
- First Fully IEEE 802.3at Compliant PSE

Linear's Experienced and Dedicated PoE Team
 Linear Technology's team provides timely technical
 support and optimum performance at the lowest overall
 cost with fastest time to market.





LTC4266 Voltage Probe During 2-Event Classification

LTC4266 Size Comparison

RELATED PARTS

PART NUMBER	PSE/PD	CHANNELS	DESCRIPTION	PACKAGE
LTC4264	PD	1	Pre-Standard High Power PD PoE Interface Controller (35W)	4mm × 3mm DFN-12
LTC4265	PD	1	IEEE 802.3at High Power PD PoE+ Interface Controller (25.5W)	4mm × 3mm DFN-12
LTC4268-1	PD	1	Pre-Standard High Power PD PoE Interface Controller with Integrated Synchronous Switching Regulator (35W)	7mm × 4mm DFN-32
LTC4269-1	PD	1	IEEE 802.3at High Power PD PoE+ Interface Controller with Integrated Synchronous No-Opto Flyback Switching Regulator (25.5W)	7mm × 4mm DFN-32
LTC4269-2	PD	1	IEEE 802.3at High Power PD PoE+ Interface Controller with Integrated Synchronous Forward Converter (25.5W)	7mm × 4mm DFN-32
LTC4263-1	PSE	1	High Power IEEE 802.3af PSE Controller with Internal Switch	4mm × 3mm DFN-14 SO-14

INFO AND SAMPLES

- Visit http://www.linear.com/contact/ or call 1-800-4-LINEAR to find contact information for the sales office or distributor near you.
- Visit http://www.linear.com/poe for more information about PoE and PoE+ products.

