



IEEE 802.3bt PD Controller Paves Path to Higher Power

MILPITAS, CA – September 12, 2016 – Linear Technology Corporation introduces the [LT4295](#) IEEE 802.3bt powered device (PD) interface controller for applications requiring up to 71W of delivered power. The next Power over Ethernet (PoE) standard – IEEE 802.3bt – enables manufacturers to go beyond the 25.5W allocated by the 2009 IEEE 802.3at standard. Linear Technology is poised to be first to market with next-generation IEEE-compliant products. The new standard, also known as PoE++ or 4PPoE, increases the power budget to enable new applications and features, while supporting 10 Gigabit Ethernet (10GBASE-T) and maintaining backward compatibility with older IEEE equipment. The LT4295 is IEEE 802.3bt (Draft 2.0) compliant and supports newly introduced features, including all additional PD classes (5, 6, 7 and 8), additional PD types (Type 3 and Type 4), and 5-event classification.

The LT4295 is a single-signature 802.3bt PD controller that integrates an isolated switching regulator controller, capable of synchronous operation in both high efficiency forward and no-opto flyback topologies with auxiliary power support. This high level of integration simplifies front end PD designs by reducing component count and board space, allowing the LT4295 to efficiently deliver power to PD loads using just one IC. Unlike traditional PD controllers that integrate the power MOSFET, the LT4295 controls an external MOSFET to significantly reduce overall PD heat dissipation and maximize power efficiency, particularly important at 802.3bt's higher power levels. An external MOSFET architecture allows users to size the MOSFET to their application's requirements; standard LT4295-based implementations routinely select 30mΩ $R_{DS(ON)}$ MOSFETs.

The LT4295 is offered in industrial and automotive grades, supporting operating temperature ranges from –40°C to 85°C and –40°C to 125°C, respectively. The LT4295 is priced starting at \$2.75 each in 1,000-piece quantities and is available in production quantities. The LT4295 provides an upgrade path from Linear Technology's existing PoE+ PD controllers, including the LT4276 or LT4275. To further maximize available power and reduce heat

dissipation in PDs, use the LT4321 ideal diode bridge controller. For more information, visit www.linear.com/product/LT4295.

Photo Caption: PoE++ Power over Ethernet PD Interface Controller

Summary of Features: LT4295

- IEEE 802.3af/at/bt (Draft 2.0) Powered Device (PD) with Forward/Flyback Controller
- External Hot Swap N-Channel MOSFET for Lowest Power Dissipation & Highest System Efficiency
- Supports Up to 71W PDs
- 5-Event Classification Sensing
- Superior Surge Protection (100V Absolute Maximum)
- Wide Junction Temperature Range (–40°C to 125°C)
- >94% End-to-End Efficiency with LT4321 Ideal Bridge
- No-Opto Flyback Operation
- Auxiliary Power Support as Low as 9V
- Available in 28-Lead 4mm x 5mm QFN Package

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About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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