

Broadcom BCM59111 Power over Ethernet Technology

Connecting everything®



HIGHLY INTEGRATED POWER OVER ETHERNET PSE CONTROLLERS

Overview

The Broadcom® BCM59111 is a highly integrated, IEEE 802.3at-2009-compliant Power Sourcing Equipment (PSE) controller with unsurpassed integration and flexibility. It contains four low-RDS (0.35Ω), high-voltage pass-FETs, each with a very accurate, lossless, proprietary internal current sense and an onboard microcontroller—all targeted to significantly reduce the complexity of Power over Ethernet (PoE) and Power over Ethernet Plus (PoE+) designs while easing PCB layout. The BCM59111 provides excellent protection under all possible fault conditions and overloads. It also supports two-event Classification for Type 2 (30W) applications.

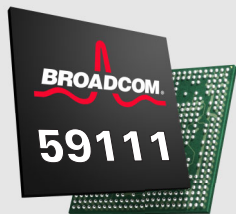
The BCM59111 has a networking-oriented host interface, communicating via a 400 kHz Broadcom Serial Control (BSC) bus.

Architectural Features

- IEEE 802.3at-2009 compliant with support for IEEE 802.3af-2003
- Supports two-event classification (Type 2)
- Supports 4-pair 60W applications
- Supports detection of legacy PDs
- Cascading of multiple devices; up to 64 ports supported
- Programmable I_{CUT} and I_{LIM} for Type 1 and Type 2
- BSC—a Philips® I²C-compatible bus architecture
- Manual/Semi-autonomous operating mode
- Real-time current, voltage, and temperature measurements available per port
- Overtemperature protection (warning and shutdown)
- Operates from a 48V supply (nominal) and external 3.3V supply
- Firmware download capability via BSC communication bus from host
- 7 mm × 7 mm × 0.9 mm QFN-48 package (0.5 mm pitch) with exposed pad

Benefits

- Highest integration allows the following:
 - Lowest total bill of materials (BOM) count.
 - Easier PCB placement and PCB area saving.
- Eliminates need for a heat sink.
- Easy layout and design via simple ground/power plane.
- Works with Broadcom PoE-enabled products for easy implementation.
- Designed with system-oriented features to allow for system-level differentiation, including:
 - Single point of interface for host hardware and software
 - Power management across all ports in cascaded configuration
 - Programmable current limits and dynamic measurement per port
 - Rapid power-down to support multiple power supply failures
- Supports a variety of applications:
 - Routers and switches for enterprise, SMB, SOHO, and commercial markets
 - Ethernet midspans
 - PSE power injectors
 - Integrated magnetics

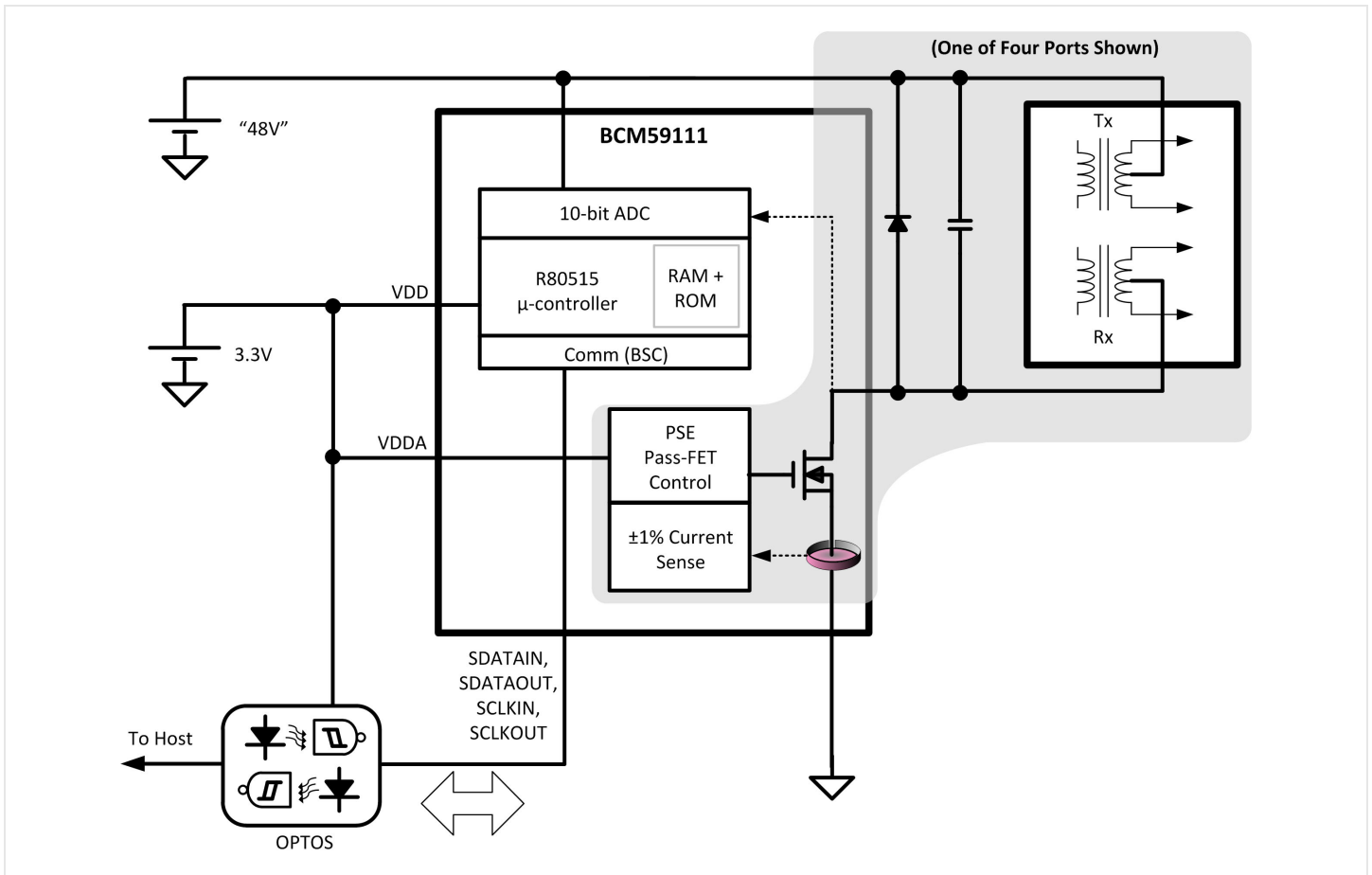


Highlights

- Highly integrated, 4-port PSE controlled with integrated FETs, integrated MCU, and integrated current sense leads to small RBOM and low cost.
- Supports IEEE 802.3at solutions as well as emerging PoE++/UPOE solutions.
- Extremely low thermal dissipation. No heat sinks required.
- UL-certified (QVRQ) as a current limiting device—which means no port fuses may be necessary.

	BCM59111
Enterprise	●
SMB	●
Service Provider	●
ONT/ONU	●

○ Supported ● Best Choice



BCM59111 Module Architecture

Ordering Information

Part Number

BCM59111KMLG

BCM59111

About Broadcom

Broadcom Corporation is a major technology innovator and global leader in semiconductors for wired and wireless communications. Broadcom® products enable the delivery of voice, video, data and multimedia to and throughout the home, the office and the mobile environment. We provide the industry's broadest portfolio of state-of-the-art system-on-a-chip and software solutions to manufacturers of computing and networking equipment, digital entertainment and broadband access products, and mobile devices.

These solutions support our core mission: Connecting everything®.

Broadcom, one of the world's largest fabless communications semiconductor companies, with 2010 revenue of \$6.82 billion, holds more than 4,800 U.S. and 2,000 foreign patents, and has more than 7,800 additional pending patent applications, and one of the broadest intellectual property portfolios addressing both wired and wireless transmission of voice, video, data and multimedia.

A FORTUNE 500® company, Broadcom is headquartered in Irvine, Calif., and has offices and research facilities in North America, Asia and Europe. Broadcom may be contacted at +1.949.926.5000 or at www.broadcom.com.

