



PD69000 is a ninety-six-port, mixed-signal, Power over Ethernet Microcontroller Unit. Used with the PD69012 and PD69008, it allows the detection of IEEE 802.3af-2003, IEEE802.3at-draft2.0 and pre-standard devices, ensuring safe power feeding and removal over Ethernet ports. It also supports 4-pairs IEEE802.3at devices consuming up to 59W. With full digital control via a serial communication interface and a minimum of external components, the MCU integrates in multi-port and highly populated Ethernet switches.

Features	Benefits
----------	----------

IEEE 802.3af-2003 and IEEE802.3at-draft2.0

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Compliant with standard and pre-standard IEEE 802.3af PD's and IEEE802.3at PD's ▪ 96-ports standalone PoE control for IEEE802.3af and IEEE802.3at PD's ▪ 2-event power classification with bypass option ▪ AC disconnect ▪ DC disconnect with DC modulation ▪ Supports RFC3621 | <ul style="list-style-type: none"> ▪ Freedom to power all PoE PD's including Cisco's inline power ▪ Highest integration on the market, enabling the lowest real-estate occupation ▪ Enables building IEEE802.3at-draft2.0-compliant solutions with no need for additional software ▪ Reliable and simple AC disconnect implementation ▪ Supports low power devices ▪ Enables integration in Managed Switches |
|---|--|

Architecture

- | | |
|--|---|
| <ul style="list-style-type: none"> ▪ I²C or UART host interface ▪ 7-bit I²C address selectability ▪ Opto-coupler compatible communication lines ▪ Up to 96 ports operating autonomously ▪ Up to 768 ports operated on a single power budget | <ul style="list-style-type: none"> ▪ Backwards compatible with all PD64008/PD64012G-based message based user interface ▪ Up to 1536 ports on a switch ▪ Can be used with PD69008 and PD69012 ▪ Without automatic power allocation to different line cards |
|--|---|

Technology

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Best-in-industry integration ▪ Single operating voltage source (44 to 57V) ▪ -40°C to +85°C operating ambient temperature ▪ QFP-44 package, ROHS compliant | <ul style="list-style-type: none"> ▪ Minimum per port external components ▪ No need for external DC/DC converter ▪ Power, high-voltage analog and high-density digital logic functions ▪ Fit for commercial applications |
|---|--|

System Enhancement

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Per-IC soft start mechanism ▪ System-wide inrush protection ▪ Internal voltages monitoring and auto reset mechanism (Power-On Reset) ▪ Over-voltage and under-voltage protection/lock-out ▪ IEEE802.3at Layer 2 classification support ▪ Dynamic Power Management ▪ Emergency Power Management for up to 16 power supplies ▪ Support for 4-pairs High power architecture ▪ Maskeable Interrupt ▪ Programmable port matrix ▪ LED streaming ▪ Temperature sense/monitoring | <ul style="list-style-type: none"> ▪ Minimal power supply stress and EMI noises ▪ Power management based on power allocation and priority map, on class value or on both, provides full flexibility and optimal power supply usage ▪ Prioritization of ports in case of power reduction ▪ Used for power supply failure conditions ▪ Capable of powering of up to 59W over 4-pairs ▪ Logical to physical port map ▪ User can receive interrupts on status or have automatic LED driving ▪ Enables system monitoring ▪ Per port thermal protection, including PCB protection |
|---|--|

© 2008 Microsemi Corporation

All rights reserved.

Microsemi is a registered trademark of Microsemi Corporation. All other products or trademarks are property of their respective owners. The product described by this manual is a licensed product of Microsemi.