



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
<b>IEEE 802.3af-2003 and IEEE802.3at-draft2.0</b>	

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| <ul style="list-style-type: none"> <li>▪ Compliant with standard and pre-standard IEEE 802.3af PD's and IEEE802.3at PD's</li> <li>▪ 96-ports standalone PoE control for IEEE802.3af and IEEE802.3at PD's</li> <li>▪ 2-event power classification with bypass option</li> <li>▪ AC disconnect</li> <li>▪ DC disconnect with DC modulation</li> <li>▪ Supports RFC3621</li> </ul> | <ul style="list-style-type: none"> <li>▪ Freedom to power all PoE PD's including Cisco's inline power</li> <li>▪ Highest integration on the market, enabling the lowest real-estate occupation</li> <li>▪ Enables building IEEE802.3at-draft2.0-compliant solutions with no need for additional software</li> <li>▪ Reliable and simple AC disconnect implementation</li> <li>▪ Supports low power devices</li> <li>▪ Enables integration in Managed Switches</li> </ul> |
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<b>Architecture</b>
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| <ul style="list-style-type: none"> <li>▪ I<sup>2</sup>C or UART host interface</li> <li>▪ 7-bit I<sup>2</sup>C address selectability</li> <li>▪ Opto-coupler compatible communication lines</li> <li>▪ Up to 96 ports operating autonomously</li> <li>▪ Up to 768 ports operated on a single power budget</li> </ul> | <ul style="list-style-type: none"> <li>▪ Backwards compatible with all PD64008/PD64012G-based message based user interface</li> <li>▪ Up to 1536 ports on a switch</li> <li>▪ Can be used with PD69008 and PD69012</li> <li>▪ Without automatic power allocation to different line cards</li> </ul> |
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<b>Technology</b>
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| <ul style="list-style-type: none"> <li>▪ Best-in-industry integration</li> <li>▪ Single operating voltage source (44 to 57V)</li> <li>▪ -40°C to +85°C operating ambient temperature</li> <li>▪ QFP-44 package, ROHS compliant</li> </ul> | <ul style="list-style-type: none"> <li>▪ Minimum per port external components</li> <li>▪ No need for external DC/DC converter</li> <li>▪ Power, high-voltage analog and high-density digital logic functions</li> <li>▪ Fit for commercial applications</li> </ul> |
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<b>System Enhancement</b>
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| <ul style="list-style-type: none"> <li>▪ Per-IC soft start mechanism</li> <li>▪ System-wide inrush protection</li> <li>▪ Internal voltages monitoring and auto reset mechanism (Power-On Reset)</li> <li>▪ Over-voltage and under-voltage protection/lock-out</li> <li>▪ IEEE802.3at Layer 2 classification support</li> <li>▪ Dynamic Power Management</li> <li>▪ Emergency Power Management for up to 16 power supplies</li> <li>▪ Support for 4-pairs High power architecture</li> <li>▪ Maskeable Interrupt</li> <li>▪ Programmable port matrix</li> <li>▪ LED streaming</li> <li>▪ Temperature sense/monitoring</li> </ul> | <ul style="list-style-type: none"> <li>▪ Minimal power supply stress and EMI noises</li> <li>▪ Power management based on power allocation and priority map, on class value or on both, provides full flexibility and optimal power supply usage</li> <li>▪ Prioritization of ports in case of power reduction</li> <li>▪ Used for power supply failure conditions</li> <li>▪ Capable of powering of up to 59W over 4-pairs</li> <li>▪ Logical to physical port map</li> <li>▪ User can receive interrupts on status or have automatic LED driving</li> <li>▪ Enables system monitoring</li> <li>▪ Per port thermal protection, including PCB protection</li> </ul> |
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