

## PD64012GH

**12-PORT HPoE PSE MANAGER** 

## DESCRIPTION

PD64012GH is a twelve-port, mixed-signal, high-voltage High Power over Ethernet PSE Manager. The IC allows the detection of IEEE 802.3af-2003 powered devices, ensuring safe power feeding and removal over Ethernet ports. It also supports pre-standard IEEE802.3at devices consuming up to 59.5W. With full digital control via a serial communication interface and a minimum of external components, the IC integrates in multi-port and highly populated Ethernet switches.



The PD64012GH has two possible working configurations: a low-cost implementation, supporting up to 571mA and a fully IEEE802.3at-ready one. Both maintain the PD64012G Enhanced mode features, for extended functions and added flexibility with the presence of the PD63000G MCU.

FEATURES	BENEFITS
IEEE 802.3af-2003 and IEEE802.3at-ready	
<ul> <li>Compliant with standard and pre-standard IEEE 802.3af PD's and IEEE802.3at PD's</li> </ul>	<ul> <li>Freedom to power all PoE PD's including Cisco's inline power</li> </ul>
<ul> <li>12-ports standalone PoE control for IEEE802.3af and PD's of up to 25W</li> </ul>	<ul> <li>Highest integration on the market, enabling the lowest real-estate occupation</li> </ul>
<ul> <li>6-ports PoE control for IEEE802.3at PD's</li> </ul>	<ul> <li>Enables building IEEE802.3at-ready solutions or low-cost 25W solutions</li> </ul>
<ul> <li>Power classification with bypass option</li> </ul>	<ul> <li>Reliable and simple AC implementation</li> </ul>
AC disconnect	<ul> <li>Supports low power devices</li> </ul>
DC disconnect with DC modulation	<ul> <li>Supports low power devices</li> <li>Enables integration in Managed Switches</li> </ul>
Supports RFC3621	
ARCHITECTURE	
<ul> <li>I<sup>2</sup>C or UART host interface</li> </ul>	<ul> <li>Backwards compatible with all PD64008-based</li> </ul>
<ul> <li>7-bit I<sup>2</sup>C address selectability</li> </ul>	message based user interface
<ul> <li>Opto-coupler compatible communication lines</li> </ul>	<ul> <li>Up to 1536 ports on a switch</li> <li>Can be used with PD64004A</li> </ul>
Up to 96 ports operating autonomously	Call be used with PD64004A
TECHNOLOGY	
<ul> <li>Best-in-industry integration</li> </ul>	<ul> <li>Minimum per port external components</li> </ul>
<ul> <li>Single operating voltage source (44 to 57V)</li> </ul>	<ul> <li>No need for external DC/DC converter</li> </ul>
<ul> <li>80V SmartMOS8 technology</li> </ul>	<ul> <li>Power, high-voltage analog and high-density</li> </ul>
<ul> <li>-20°C to +70°C operating ambient temperature</li> </ul>	digital logic functions
<ul> <li>LQFP-64 package, ROHS compliant</li> </ul>	<ul> <li>Fit for commercial applications</li> </ul>
SYSTEM ENHANCEMENT	
<ul> <li>Per-IC soft start mechanism</li> </ul>	<ul> <li>Minimal power supply stress and EMI noises</li> </ul>
<ul> <li>System-wide inrush protection</li> </ul>	<ul> <li>Power management based on power allocation</li> </ul>
<ul> <li>Internal voltages monitoring and auto reset mechanism (Power-On Reset)</li> </ul>	and priority map, on class value or on both, provides full flexibility and optimal power supply usage
<ul> <li>Over-voltage and under-voltage protection/lock-out</li> </ul>	<ul> <li>Prioritization of ports in case of power reduction</li> </ul>
<ul> <li>IEEE802.3at Layer 2 classification support</li> </ul>	<ul> <li>Used for power supply failure conditions</li> </ul>
<ul> <li>Dynamic Power Management</li> </ul>	<ul> <li>Capable of powering of up to 59W over 4-pairs</li> </ul>
<ul> <li>Emergency Power Management</li> </ul>	<ul> <li>Logical to physical port map</li> </ul>
<ul> <li>Support for 4-pairs High power architecture</li> </ul>	<ul> <li>User can receive interrupts on status or have</li> </ul>
Maskeable Interrupt	automatic LED driving
Programmable port matrix	<ul> <li>Enables system monitoring</li> </ul>
<ul><li>LED streaming</li><li>Temperature sense/monitoring</li></ul>	<ul> <li>Per port thermal protection, including PCB protection</li> </ul>

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