PD64004A
4-port PoE PSE Manager

PD64004A is a four-port, mixed-signal, high-voltage 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. 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 PD64004A has three possible working configurations: an Automatic stand-alone mode, for basic PoE functions, the PoE+ Mode supporting legacy devices and autonomous operation with the PD33000G MCU and an Enhanced mode, for extended functions and added flexibility with the PD63000G and PD83000G MCU's.

Features	Benefits
IEEE 802.3af-2003	
▪ Compliant with IEEE 802.3af and pre-standard PD's ▪ 4-ports standalone PoE control ▪ Power classification with bypass option ▪ AC disconnect ▪ DC disconnect with DC modulation ▪ Supports RFC3621	▪ Freedom to power all PoE PD's including Cisco's inline power ▪ Highest integration on the market, enabling the lowest real-estate occupation ▪ Reliable and simple AC implementation ▪ Supports low power devices ▪ Enables integration in Managed Switches
Architecture	
▪ I^2C or UART host interface ▪ 7-bit I^2C address selectability ▪ Opto-coupler compatible communication lines ▪ Up to 88 ports operating autonomously	▪ Backwards compatible with all PD64008-based message based user interface ▪ Up to 1528 ports on a switch ▪ Can be used with PD64012G
Technology	
▪ Best-in-industry integration ▪ Single operating voltage source (44 to 57V) ▪ 80V SmartMOS8 technology ▪ -40^oC to $+85^oC$ operating ambient temperature ▪ QFN-48-PS package, ROHS compliant	▪ Minimum per port external components ▪ No need for external DC/DC converter ▪ Power, high-voltage analog and high-density digital logic functions ▪ Fit for industrial applications
System Enhancement	
▪ 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 ▪ Dynamic Power Management ▪ Emergency Power Management (Enhanced Mode) ▪ Support for 4-pairs High power architecture (Enhanced Mode) ▪ Maskeable Interrupt ▪ Programmable port matrix (Enhanced mode) ▪ LED streaming (Enhanced) or driving (PoE+) ▪ Temperature sense/monitoring	▪ 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 31W over 4-pairs ▪ Logical to physical port map ▪ User can receive interrupts on status or have automatic/direct LED driving ▪ Enables system monitoring ▪ Per port thermal protection, including PCB protection

Information in this document subject to change without prior notice.

March 2007