PD64004AH

4-PORT HPoE PSE MANAGER

DESCRIPTION

PD64004AH is a four-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 PD64004AH has two possible working configurations: a low-cost implementation, supporting up to 571mA and a fully IEEE802.3at-ready one. Both maintain the PD64004A Enhanced mode features, for extended functions and added flexibility with the presence of the PD63000G MCU.

FEATURES	BENEFITS
IEEE 802.3af-2003	
▪ Compliant with standard and pre-standard IEEE 802.3af PD's and IEEE802.3at PD's	▪ Freedom to power all PoE PD's including Cisco's inline power
▪ 4-ports standalone PoE control for IEEE802.3af and PD's of up to 25W	▪ Highest integration on the market, enabling the lowest real-estate occupation
▪ 2-ports PoE control for IEEE802.3at PD's	▪ Enables building IEEE802.3at-ready solutions or low-cost 25W solutions
▪ Power classification with bypass option	▪ Reliable and simple AC implementation
▪ AC disconnect	▪ Supports low power devices
▪ DC disconnect with DC modulation	▪ Enables integration in Managed Switches
▪ Supports RFC3621	
ARCHITECTURE	
▪ I^2C or UART host interface	▪ Backwards compatible with all PD64008-based message based user interface
▪ 7-bit I^2C address selectability	▪ Up to 1528 ports on a switch
▪ Opto-coupler compatible communication lines	▪ Can be used with PD64012G
▪ Up to 88 ports operating autonomously	
TECHNOLOGY	
▪ Best-in-industry integration	▪ Minimum per port external components
▪ Single operating voltage source (44 to 57V)	▪ No need for external DC/DC converter
▪ 80V SmartMOS8 technology	▪ Power, high-voltage analog and high-density digital logic functions
▪ -40^oC to $+70^oC$ operating ambient temperature	▪ Fit for commercial applications
▪ QFN-48-PS package, ROHS compliant	
SYSTEM ENHANCEMENT	
▪ Per-IC soft start mechanism	▪ Minimal power supply stress and EMI noises
▪ System-wide inrush protection	▪ Power management based on power allocation and priority map, on class value or on both, provides full flexibility and optimal power supply usage
▪ Internal voltages monitoring and auto reset mechanism (Power-On Reset)	▪ Prioritization of ports in case of power reduction
▪ Over-voltage and under-voltage protection/lock-out	▪ Used for power supply failure conditions
▪ IEEE802.3at Layer 2 classification support	▪ Capable of powering of up to 59W over 4-pairs
▪ Dynamic Power Management	▪ Logical to physical port map
▪ Emergency Power Management	▪ User can receive interrupts on status or have automatic/direct LED driving
▪ Support for 4-pairs High power architecture	▪ Enables system monitoring
▪ Maskeable Interrupt	▪ Per port thermal protection, including PCB protection
▪ Programmable port matrix	
▪ LED streaming	
▪ Temperature sense/monitoring	

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