



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

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| <ul style="list-style-type: none"> ▪ Compliant with standard and pre-standard IEEE 802.3af PD's and IEEE802.3at PD's ▪ 4-ports standalone PoE control for IEEE802.3af and PD's of up to 25W ▪ 2-ports PoE control for IEEE802.3at PD's ▪ 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-ready solutions or low-cost 25W solutions ▪ Reliable and simple AC implementation ▪ Supports low power devices ▪ Enables integration in Managed Switches |
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ARCHITECTURE

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| <ul style="list-style-type: none"> ▪ I²C or UART host interface ▪ 7-bit I²C address selectability ▪ Opto-coupler compatible communication lines ▪ Up to 88 ports operating autonomously | <ul style="list-style-type: none"> ▪ Backwards compatible with all PD64008-based message based user interface ▪ Up to 1528 ports on a switch ▪ Can be used with PD64012G |
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TECHNOLOGY

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| <ul style="list-style-type: none"> ▪ Best-in-industry integration ▪ Single operating voltage source (44 to 57V) ▪ 80V SmartMOS8 technology ▪ -40°C to +70°C operating ambient temperature ▪ QFN-48-PS 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 |
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SYSTEM ENHANCEMENT

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| <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 ▪ 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/direct LED driving ▪ Enables system monitoring ▪ Per port thermal protection, including PCB protection |
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