PD64012G

12-PORT PoE PSE MANAGER

DESCRIPTION

PD64012G is a twelve-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 PD64012G has two possible working configurations: an Automatic stand-alone mode, for basic PoE functions, and an Enhanced mode, for extended functions and added flexibility with the presence of the PD63000G and PD83000G MCU's.

FEATURES	BENEFITS

IEEE 802.3af-2003 and IEEE802.3at-ready

- Compliant with IEEE 802.3af and pre-standard PD's
- 12-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^{2}C or UART host interface
- 7-bit I^{2}C address selectability
- Opto-coupler compatible communication lines
- Up to 96 ports operating autonomously

- Backwards compatible with all PD64008-based message based user interface
- Up to 1536 ports on a switch
- Can be used with PD64004A

TECHNOLOGY

- Best-in-industry integration
- Single operating voltage source (44 to 57V)
- 80V SmartMOS8 technology
- -20°C to +85°C operating ambient temperature
- LQFP-64 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 (Enhanced mode)
- Programmable port matrix (Enhanced mode)
- LED streaming (Enhanced mode)
- 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 LED driving
- Enables system monitoring
- Per port thermal protection, including PCB protection

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