PD69008

8-port HPoE PSE Manager

PD69008 is a eigth-port, mixed-signal, high-voltage High Power over Ethernet PSE Manager. The IC allows the detection of IEEE802.3af-2003 and IEEE802.3at-draft2.0 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 PD69008 supports 2-events classification and up to 720mA (36W@50VDC) per 2-pairs channel. It can be operated either in Auto Mode, fully stand-alone, or in Enhanced Mode with the PD69000 MCU, and is backwards compatible with PD64012G and PD64012GH IC's for effortless transition into high power applications. The PD69008 and PD69012 can be combined in the same designs.

Features	Benefits
IEEE 802.3af-2003 and IEEE802.3at-draft2.0	
▪ Compliant with standard and pre-standard IEEE802.3af PD's and IEEE802.3at-draft2.0 PD's ▪ 12-ports standalone PoE control supplying 36W per port for PD's of up to 29.5W with CAT5 cabling ▪ 6-ports PoE control for 4-pairs IEEE802.3at PD's of up to 59W ▪ 2-event 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 ▪ Enables building IEEE802.3at-draft2.0-compliant solutions with no need for additional software ▪ 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 92 ports operating autonomously ▪ Up to 768 ports operated on a single power budget	▪ Backwards compatible with all PD64008/PD64012G-based message based user interface ▪ Up to 1532 ports on a switch ▪ Can be used with PD69012 ▪ Without automatic power allocation to different line cards
Technology	
▪ Best-in-industry integration ▪ External FET's and Sense Resistors ▪ Single operating voltage source (44 to 57V) ▪ 80V SmartMOS8 technology ▪ -40°C to +85°C operating ambient temperature ▪ LQFP-80 package, ROHS compliant	▪ Minimum per port external components ▪ Lowest power dissipation in industry with ultra accurate current sensing ▪ 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 ▪ IEEE802.3at Layer 2 classification support ▪ Dynamic Power Management ▪ Emergency Power Management for up to 16 power supplies ▪ Support for 4-pairs High power architecture ▪ Maskeable Interrupt ▪ Programmable port matrix ▪ LED streaming	▪ 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 LED driving ▪ Enables system monitoring ▪ Per port thermal protection, including PCB

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- Temperature sense/monitoring

protection