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	▪ Freedom to power all PoE PD's including Cisco's inline power
▪ 12-ports standalone PoE control	▪ Highest integration on the market, enabling the lowest real-estate occupation
▪ 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 1536 ports on a switch
▪ Opto-coupler compatible communication lines	▪ Can be used with PD64004A
▪ Up to 96 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
▪ -20°C to +85°C operating ambient temperature	▪ Fit for industrial applications
▪ LQFP-64 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
▪ Dynamic Power Management	▪ Capable of powering of up to 31W over 4-pairs
▪ Emergency Power Management (Enhanced Mode)	▪ Logical to physical port map
▪ Support for 4-pairs High power architecture (Enhanced Mode)	▪ User can receive interrupts on status or have automatic LED driving
▪ Maskeable Interrupt (Enhanced mode)	▪ Enables system monitoring
▪ Programmable port matrix (Enhanced mode)	▪ Per port thermal protection, including PCB protection
▪ LED streaming (Enhanced mode)	
▪ Temperature sense/monitoring	