4-Port PSE Controller for PoE Systems

Features
- IEEE 802.3AF-2003 and 802.3AT-2009 compliant
- Single DC power supply voltage input (45~57V)
- Wide temperature range: -40°C ~ +85°C
- Supplies 4 independent power ports
- Built-in power FETs
- I2C Bus to access up to 8 x IP804A devices
- Continuous system monitoring for every port
- Independent system parameters setting for every port
- Thermal monitoring and protection
- Built-in 3.3V regulators for external devices
- Built-in Power on Reset
- Configurations: (1) 30W x 4 ports
- Total Current Limit
- Built-in LEDs control
- Built-in EEPROM interface for dumb application
- Package and operation temperature: 48 Pin(7mmx7mm) MQFN, -40~85°C

General Description
IP804A is an 4-port PSE (Power Sourcing Equipment) controller IC for PoE (Power over Ethernet) systems. It integrates power, analog and logic circuits into a single chip, and can be used for Midcap and Endpoint PSE applications.

IP804A meets all IEEE 802.3AF-2003 requirements, such as multi-point resistor detection, PD classification, DC Disconnect, and Back-off for Midcap. It also meets all IEEE 802.3AT-2009 requirements, such as two-event classification and supply maximum 36W per port.

IP804A comprises internal temperature monitoring and thermal protection to protect against junction overheating. The 3.3V regulator is built-in to support external devices. Multiple IP804As can integrate to build an 4 x N ports PSE system, and I2C bus uses to collect PD power status from each IP804A to support global power managements.

Multiple IP804As can build a cost effective PHY level PSE system to support PD classification and power management without a host. With a management host, a networked LLDP (Link Layer Discovery Protocol) based multiple IP804As PSE system can be built. Based on LLDP (part of IEEE Std 802.3AT-2009), dynamic power management between PSE and PD can be maintained in real time for power efficiency.

Management switch host has options to communicate IP804As via I2C bus for PSE management activities. Opt couplers can be implemented to provide electrical isolations between the host and IP804As for signal communication.

Application
- 4 port PSE Switch
- 8 port PSE Switch

Pin diagram

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