

12 channel integrated PSE line manager

Data Brief

Features

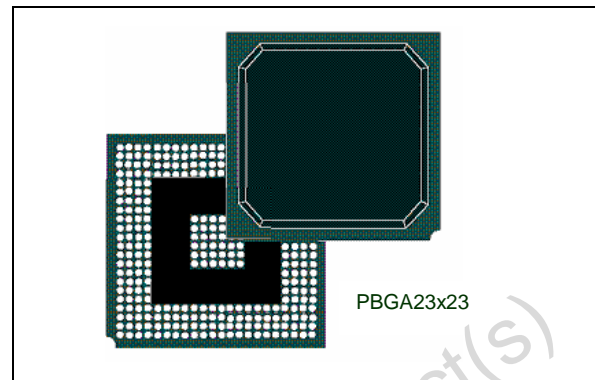
- PSE power control device
- Supports up to 12 independent, 4^(a) or 6^(b) 30W “boosted” ports
- Wide operating range: up to 90V
- IEEE 802.3af compliant
- Open circuit detection: AC and DC methods
- Advanced power management algorithm
- Current sensing with as low as 500 mΩ external, series resistors
- No need for external FETs
- In-rush current control
- Short-circuit protection
- Adaptable signature detection capability
- On-chip 3.3V SMPS controller
- Low-noise, 12-bit ADC
- Standard I2C interface
- Parallel monitor interface

Description

STE12PS is designed to supply power over multiple Ethernet channels in order to avoid different, individual power supply units for applications such as Web cams, IP Phones, Bluetooth access points and WLAN access points.

The equipment that provides the power to the twisted pair cabling is referred to as Power Sourcing Equipment (PSE).

The PSE's main functions are: looking for links to a Powered Device (PD), classifying a PD,



supplying power to the link, monitoring power on the link, and removing power from the link. The STE12PS is fully programmable, supporting the detection and powering of IEEE802.3af as well as legacy PDs. The flexibility of the STE12PS allows the user to select a suitable system configuration: up to 12 ports as well as 4^(a) or 6^(b) “boosted” channels. If needed, the STE12PS can also efficiently manage cases or applications where a limited amount of power is available to the ports (smart-power capability) by means of integrated, power MOSFET devices. All operations are controlled via the I2C bus also notifying externally some ports status condition via dedicated pins.

Ethernet port isolation can be easily maintained thanks to an integrated 3.3V SMPS power source and by means of optocouplers. The STE12PS has five address selection inputs to choose up to 32 possible different addresses.

Power can be provided to the PD using either spare lines of the Ethernet cable or using the data wires, as specified by IEEE 802.3af.

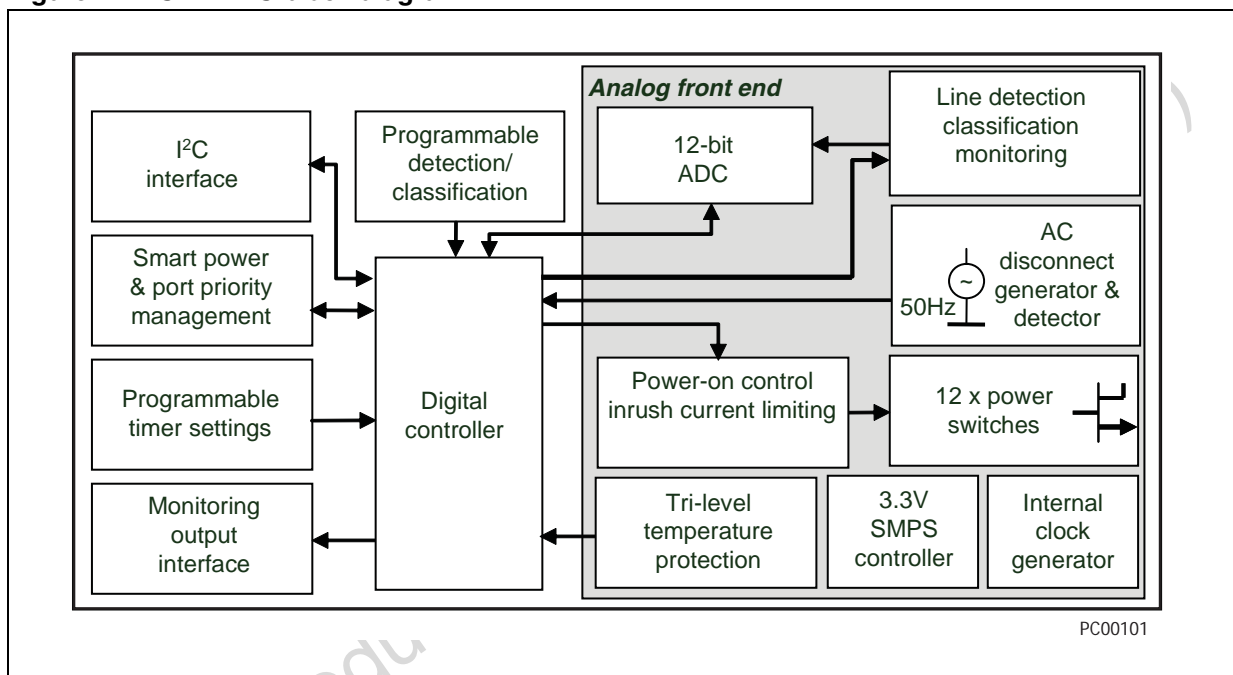
- a. In AUTO mode
- b. In MANUAL mode

Applications

- IP phones
- Web cam
- WLAN access points
- Midspan power supply
- Ethernet Switches/Routers

Block diagram

Figure 1. STE12PS block diagram



Obsolete Product

Ordering information

Table 1. Order codes

Part number	Temp range, °C	Package
E-STE12PS ⁽¹⁾	-40 to +85	PBGA (23mm x 23mm x 1.82mm)

1. E-: ECOPACK®

Revision history

Table 2. Document revision history

Date	Revision	Changes
05-Dec-2006	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

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