

PE4201 Power Factor Correction IC

The PE4201 represents a new dimension of integrated circuits providing power factor correction. Through its implemented safety features, it increases the reliability of operation. Additionally, by saving power, the PE4201 reduces system cost.

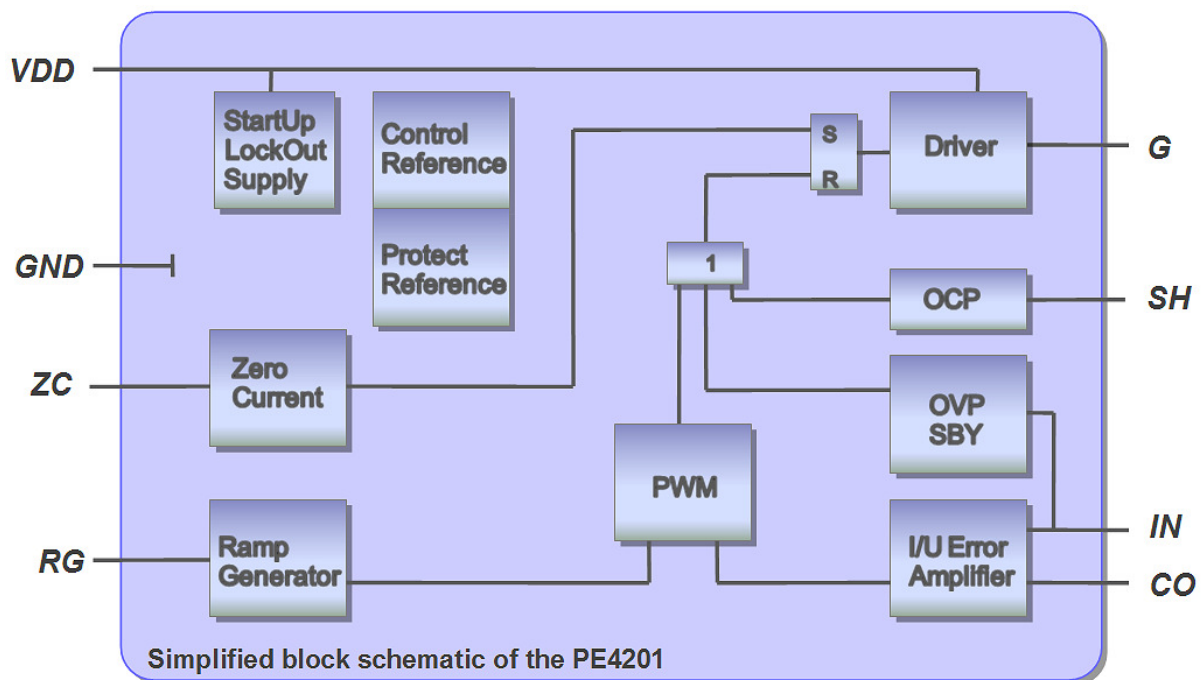
Description

The PE4201 is a wide input range controller IC for active power factor correction converters.

The IC operates in CRM mode with voltage controlled PWM and in DCM mode at light load condition. The maximum switching frequency is determined by an internal delay circuitry. The control loops are compensated by the means of external components.

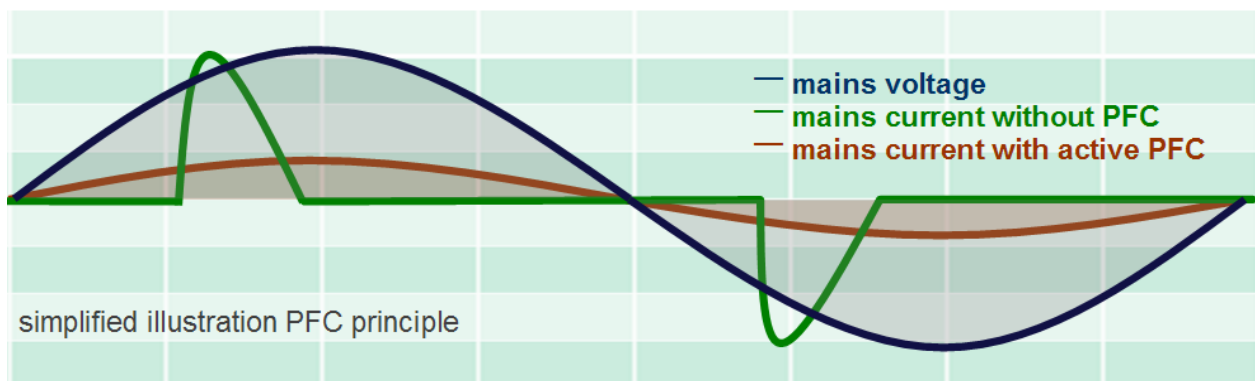
The PE4201 provides a set of protection features such as over voltage protection, open loop protection, under voltage lockout and peak current protection. Important protection features are supported by an independent reference. This ensures that the protection features remain working even in case of a deficient regulation reference.

The soft start function reduces the start up current and lowers the stress at the boost diode. In disabled mode the current consumption is less than 170µA.



Features

- low total harmonic distortion (THD)
- low start-up current ($< 5\mu\text{A}$)
- low operating current ($< 450\mu\text{A}$)
- disable function ($< 170\mu\text{A}$)
- under voltage lockout with $> 8\text{V}$ hysteresis
- over voltage and peak current protection with independent reference
- reduced operating frequency at low output power
- high efficiency at high and low output power
- internal clamping resistor at driver output
- very fast driver switch off speed at peak current detection
- driver load up to 5nF



Applications

- AC/DC converter
- Electric Light Ballast
- PC & TV & Monitor SMPS
- Low- & Mid-Power Applications

Parameters

input voltage range	85 to 280 VAC
operating current (without driver load)	$< 450\mu\text{A}$
start-up current	$< 5\mu\text{A}$
start-up/lock-out hysteresis	$> 8\text{V}$
driver load	5nF
operating temperature	$-40..125\text{ }^\circ\text{C}$
supply voltage	$8..30\text{V}$
output voltage regulation	$\pm 1\%$

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