

1 Features

- 700-V 170-mΩ GaN FET with Integrated gate Driver
- Integrated loss-less current sensing
- Slew Rate adjustable
- Operates from +5V to +30V unregulated supply
- Cycle-by-cycle overcurrent protection with < 30ns response
- Self-protection from internal overtemperature and UVLO monitoring
- High Frequency Operation
- 6mm*8mm QFN package separates electrical and thermal paths for lowest power loop inductance

2 Applications

- AC-DC, DC-DC, DC-AC
- QR flyback, ACF, buck, boost, half-bridge, full-bridge, LLC resonant, Class D, PFC
- Wireless Power
- Solar Inverters

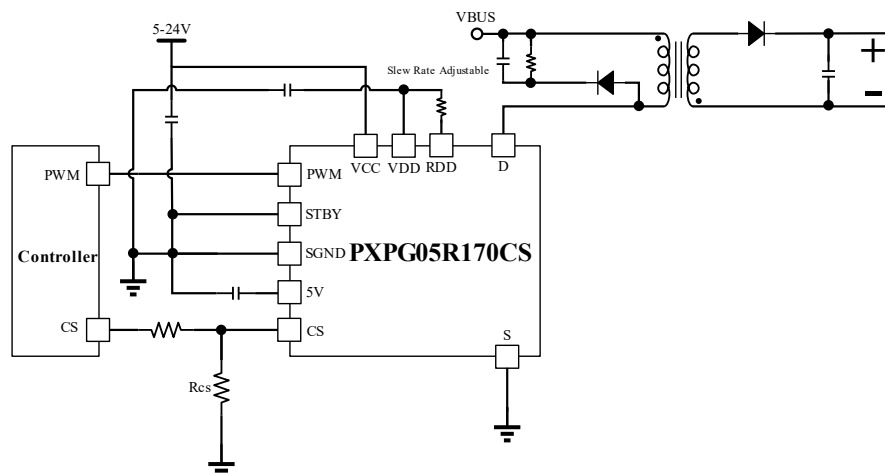
3 Description

The PXPG05R170CS GaN FET with integrated driver and protection enables designers to achieve new levels of power density and efficiency in power electronics systems.

The PXPG05R170CS integrates a silicon driver that enables switching speed up to 200V/ns. This integration, combined with our low inductance package, delivers clean switching and minimal ringing in hard-switching power supply topologies. Other features, including adjustable gate drive strength for EMI control, over temperature, and robust over current protection with < 30ns response, integrated loss-less current sensing provide optimized BOM cost, board size, and better performance.

The PXPG05R170CS inherent advantages over silicon MOSFETs include ultra-low input and output capacitance, integrated loss-less current sensing to reduce losses by as much as 50%, and low switch node ringing to reduce EMI. These advantages enable dense and efficient topologies like the QR flyback, ACF, LLC resonant, Class D, PFC and so on.

Typical (Simplified) System Diagram



Simplified Application Circuit