PRODUCT BRIEF

CoolSET™ PWM Fixed Frequency G5 Pro

CoolSET™ PWM fixed frequency G5 Pro family incorporates controllers for driving external 1700V CoolSiC™ or Silicon MOSFETs targeting auxiliary power supply for industrial, solar, server, and consumer applications.

The CoolSET™ PWM controllers offer a selectable gate voltage for driving Silicon Carbide (CoolSiC™) or Silicon MOSFETs and comprehensive protections including input line voltage protection, which provide high system reliability. Key features are fast and low-loss startup with external MOSFET break-down voltage as limit as well as an integrated soft-start feature to minimize component stress during start-up. Resulting benefits are BOM savings due to less external components required. The integrated error amplifier of the CoolSET™ PWM fixed frequency G5 Pro controllers supports direct sense for non-isolated designs, and the enhanced active burst mode enables a low standby power. Furthermore, features characterizing the CoolSET™ PWM fixed frequency G5 Pro family are frequency reduction for improved average efficiency, frequency jitter enabling low EMI and CCM slope compensation, to deliver high performance.

Overall, the controllers can support isolated flyback topologies with opto-couplers as well as non-isolated flyback with direct sense, thus present as a suitable solution for various applications.

Key features

- Selectable gate voltage **10 V, 15 V, 18 V**
- Output power:
  - **73 W** to **105 W** [85 V_{AC}-440V_{AC}]
  - **79 W** to **114 W** [200 V_{DC}-1000 V_{DC}]
- Frequency (fsw) **65 kHz** to **100 kHz**
- Comprehensive protection features incl. input line voltage protection
- Fast & low-loss startup with external MOSFET break down voltage as limit
- Integrated soft-start
- Integrated error amplifier
- Enhanced active burst mode
- Frequency reduction
- Frequency jitter
- CCM slope compensation

CoolSET™ PWM fixed frequency G5 Pro portfolio

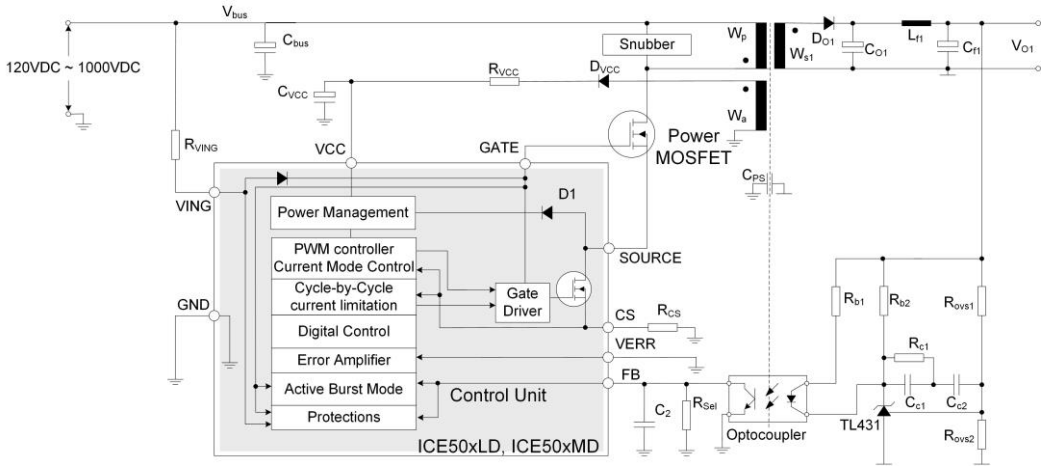
Type	fsw	85 V AC – 440 V AC	200 V DC – 1000 V DC	Package
ICE501LD	65 kHz	73 W	79 W	PG-DSO-8
ICE501MD	100 kHz	73 W	79 W	PG-DSO-8
ICE502LD	65 kHz	105 W	114 W	PG-DSO-8
ICE502MD	100 kHz	105 W	114 W	PG-DSO-8

Key benefits

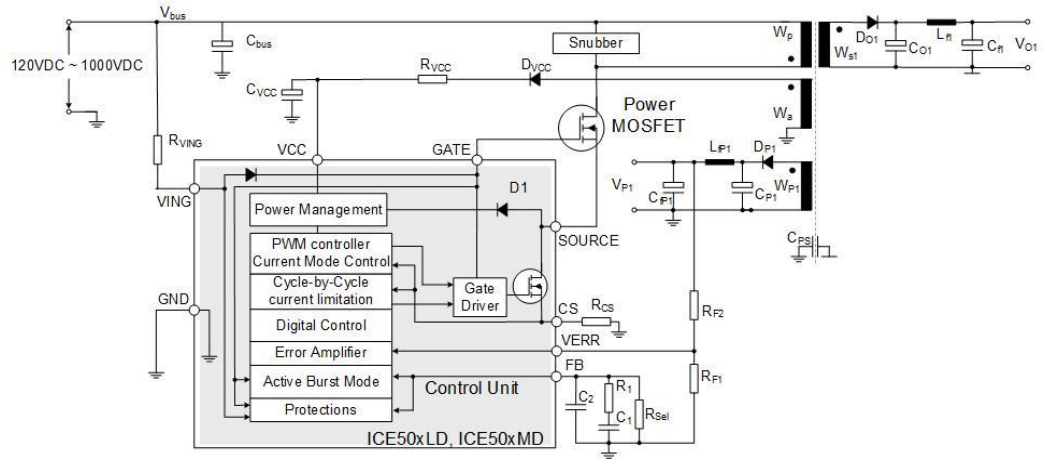
- Capability to drive Si & CoolSiC™ MOSFETs
- Minimized component stress
- Low standby power
- Supports direct sense
- Improved average efficiency
- Low EMI

AUX power | Solar | Industrial drive | EV charging

Isolated flyback with opto-coupler



Non-isolated flyback with direct sense



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