

### FEATURES

- Pin programmable 1-, 2-, or 3-phase operation
- Excellent static and dynamic current sharing
- Superior load transient response when used with ADOPT™ optimal positioning technology
- Noise blanking for speed and stability
- Synchronous rectification control for optimized light load efficiency
- Soft DAC output voltage transition for VID change
- Cycle-by-cycle current limiting
- Latched or hiccup current overload protection
- Masked power good during output voltage transients
- Soft start-up without power-on inrush current surge
- 2-level overvoltage and reverse voltage protection

### APPLICATIONS

- IMVP-IV CPU core dc-to-dc converters
- Programmable output power supplies

### GENERAL DESCRIPTION

The ADP3205A is a 1-, 2-, or 3-phase hysteretic peak current mode dc-to-dc buck converter controller dedicated to powering a mobile processor's core. The chip-optimized low voltage design runs from the 3.3 V system supply. The chip contains a precision 6-bit DAC whose nominal output voltage is set by VID code. The ADP3205A features high speed operation to allow a minimized inductor size that results in the fastest possible change of current to the output. To further minimize the number of output capacitors, the converter features active voltage positioning enhanced with ADOPT optimal compensation to ensure a superior load transient response. The output signals interface with ADP3415 MOSFET drivers that are optimized for high speed and high efficiency. The device is capable of providing synchronous rectification control to extend battery lifetime in light load conditions. The ADP3205A is specified over the extended commercial temperature range of 0°C to 100°C and is available in a 40-lead LFCSP package.

For more information about the ADP3205A, contact Analog Devices via email at [analog.power@analog.com](mailto:analog.power@analog.com).

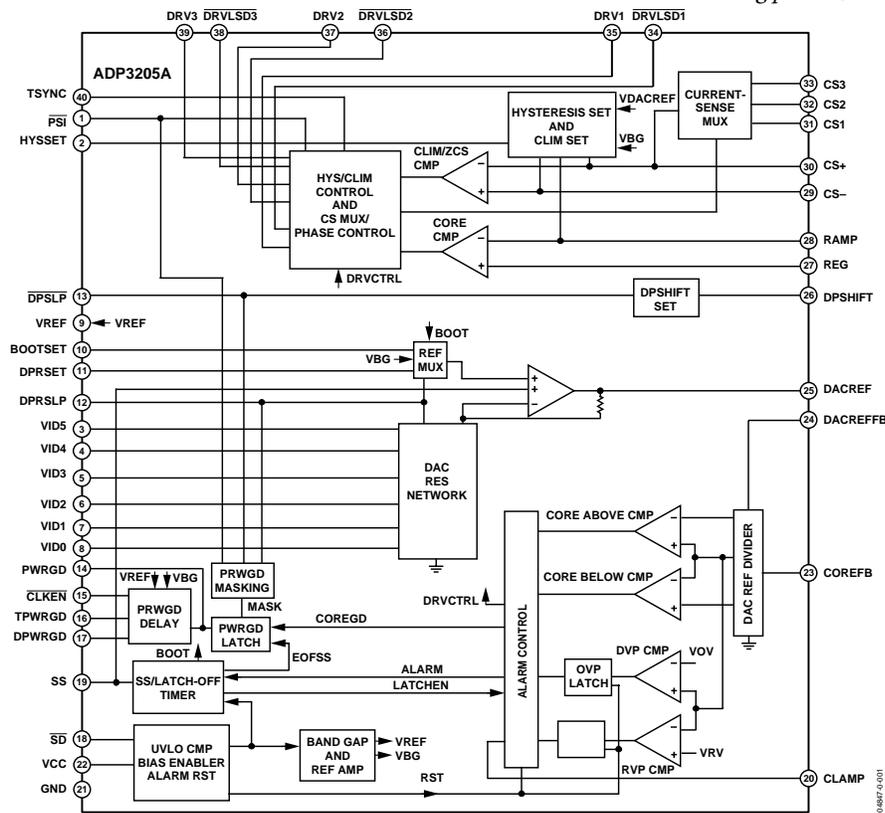


Figure 1. Functional Block Diagram

### Rev. Sp0

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