



# Multi-Phase Core Controller for Intel® Mobile CPUs

## Preliminary Technical Data

## ADP3205

### 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 Opti-  
 mized 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 In-Rush Current  
 Surge  
 Two Level Over-Voltage and Reverse-Voltage  
 Protection

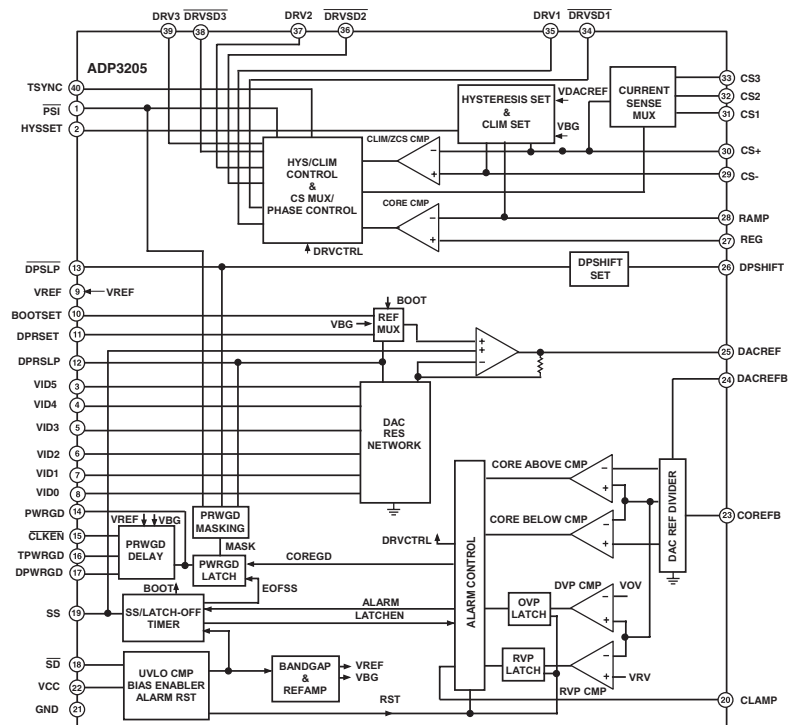
### APPLICATIONS

Next Generation Intel Mobile CPU Core  
 DC/DC Converters  
 Programmable Output Power Supplies

### GENERAL DESCRIPTION

The ADP3205 is a 1, 2, or 3 phase hysteretic peak current mode DC-DC buck converter controller dedicated to power 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 ADP3205 features high-speed operation to allow a minimized inductor size that results in the fastest 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 ADP3205 is capable of providing synchronous rectification control to extend battery lifetime in light load conditions.

### FUNCTIONAL BLOCK DIAGRAM



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REV. PrK 10/23/02

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