Helix Semiconductors
MxC200 Product Brief

MxC200 48Vdc 15W Intermediate Bus Converter DC-DC

The Helix Semiconductor MxC200, intermediate bus converter, DC-DC MuxCapacitor Power IC offers the highest energy efficiency per density. It enables use with low cost PoL regulators (i.e., 12V Buck Regulator) maximizing system efficiency. Each MuxCapacitor output can be tapped for intermediate voltages. The integrated multi-stage MuxCapacitor enables a low profile module for high density equipment. High efficiency reduces thermal loading for lower packaging costs.

Intelligent MuxCapacitor timing & control optimizes power delivery efficiency from no-load to maximum power.

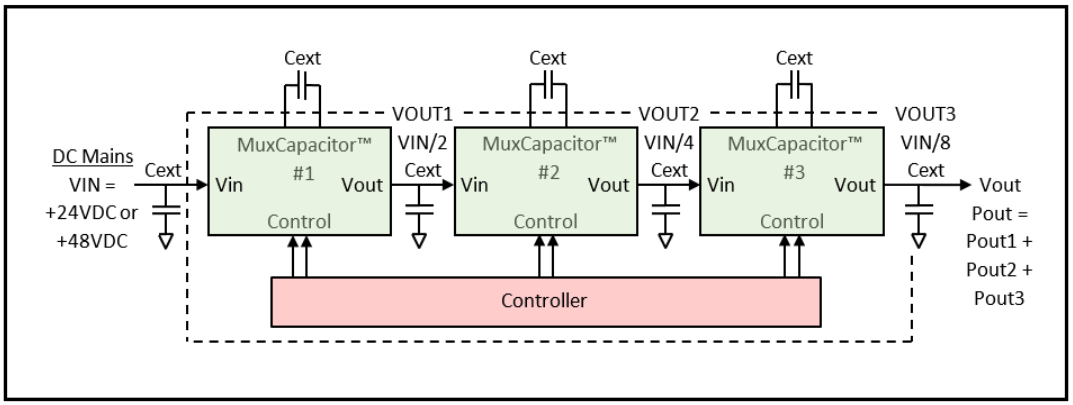
Applications

- Telecom Blades, Data Centers
- PoE: Wireless Access Points, Security Cameras, VoIP Phones
- Electric & Hybrid Automobiles
- Industrial Controllers, HVAC
- IoT & IIoT Gateways

Features

- Nominal +24 to 48Vdc Input Voltage
  - 3-stage MuxCapacitor™, G=1/2 each
  - Up to 57Vdc Input Voltage
- 15W Output
  - Pout = Pout1 + Pout2 + Pout3
- Multiple intermediate outputs
- Idle Operation: Enabled, No-Load
  - 0.5mW Non-Switching
  - 48mW Switching
- > 97% Efficiency @ 2.6W
- > 90% Efficiency @ 15W
- Maximizes POL regulator efficiency
- Fault Detectors
  - Output Over Current
  - Thermal Shutdown
- Extends use of low-voltage PoLs
  - Enables 48V operation
  - Greater hi-VIN efficiency
  - Power multiple PoLs
- Package Options
  - 32 Pin QFN, 5mm x 5mm
  - Wire Bond Die

MxC200 Block Diagram



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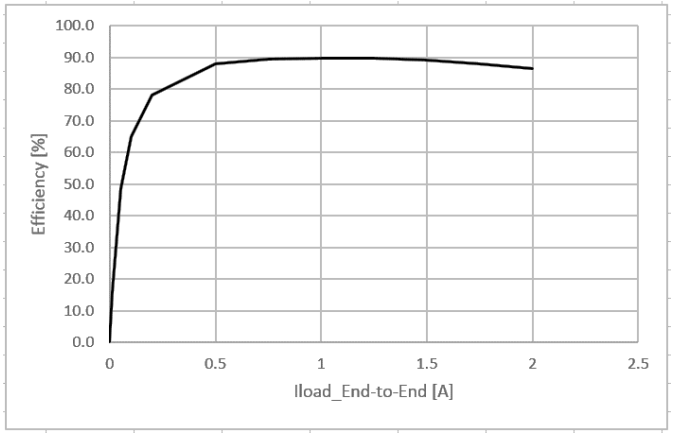

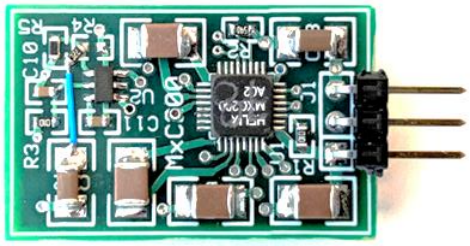

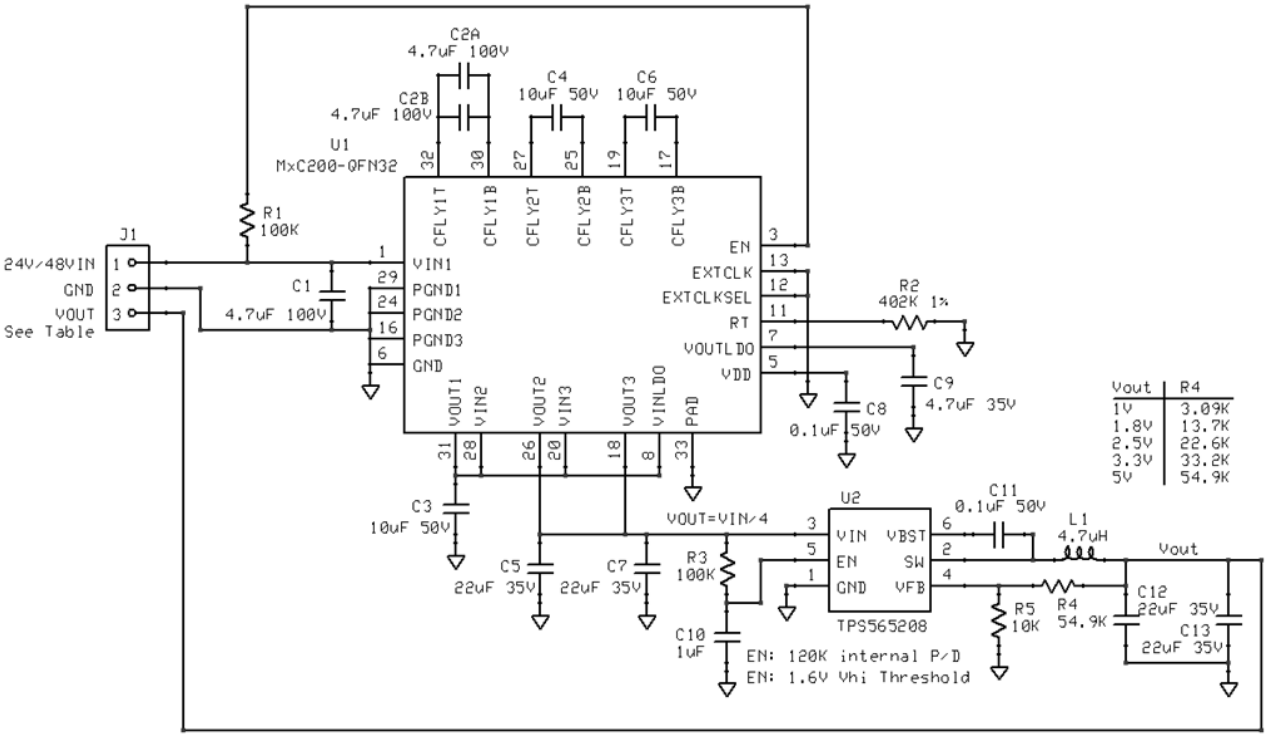

MxC200 with Buck Regulator Application Schematic