The LTC®3765 and LTC3766 chipset combine to form an advanced feature set, low component count, isolated synchronous forward converter. Direct Flux Limit™ technology prevents transformer saturation under all conditions. Active clamp transformer reset increases efficiency and reduces the solution size. Secondary-side control ensures reliable control of the output voltage and current while providing the fastest transient response.

**LTC3765/LTC3766 Features/Benefits**
- Direct Flux Limit Feature
- Synchronous Rectification
- Active Clamp Transformer Reset
- Secondary-Side Control
- Fast and Accurate Average Current Limit
- Self-Starting Architecture
- Multiphase Capable (Up to 250W/Phase)
- True Remote Output Voltage Sense
- No Opto-Coupler Required
- Very Fast Transient Response
- Clean Start-Up into a Prebiased Load
- Overtemperature/OVP Protection

**Improved Forward Converter Technology**

The LTC®3765 and LTC3766 chipset combine to form an advanced feature set, low component count, isolated synchronous forward converter. Direct Flux Limit™ technology prevents transformer saturation under all conditions. Active clamp transformer reset increases efficiency and reduces the solution size. Secondary-side control ensures reliable control of the output voltage and current while providing the fastest transient response.

**Accurate and Adjustable Current Limit**
This circuit demonstrates a high level of performance, efficiency and small solution size attainable using these parts in an active-clamp-reset isolated forward converter power supply. It produces a regulated 12V, 12.5A output from an input voltage range of 18V to 72V, making it well suited for telecom, datacom and industrial applications.

**Demo Board Performance Curves 12V/12.5A Output from 18V to 72V Input**

![Efficiency and Power Loss Curves](Actual Size)

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**Efficiency and Power Loss Curves**

**Output Ripple, 20MHz BW**

![Output Ripple, 20MHz BW](Actual Size)

**Transient Response Waveforms**

![Transient Response Waveforms](Actual Size)

**Conditions:**
- 48V in, 12V at 11A output
- 48V in, 6A to 12A step load