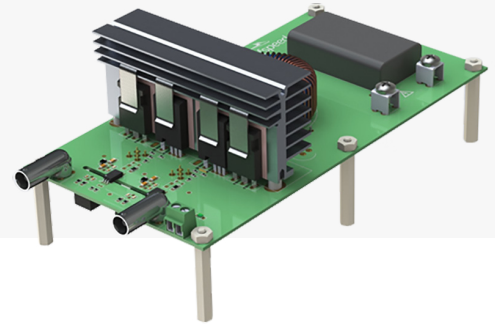


CRD3DD12P Buck Boost Evaluation Kit



The CRD3DD12P buck boost evaluation kit is optimized to demonstrate the high-speed switching capability of Wolfspeed's 3rd Generation (C3M) silicon carbide (SiC) MOSFETs. The board features SMA connectors for monitoring the gate to source voltage. The SMA connectors offer much cleaner waveforms than traditional probes and ground leads.

This evaluation kit supports 4-lead and 3-lead TO-247 package MOSFETs as well as diodes in TO-247 and TO-220 packages. The kit contains everything needed including a heatsink, thermal interface, inductor, hardware, etc. as well as two Wolfspeed C3M MOSFETs to allow the user to begin testing within minutes of unpackaging the kit.

The kit can easily be run as a boost or as a buck converter. All of the supported topologies are listed below:

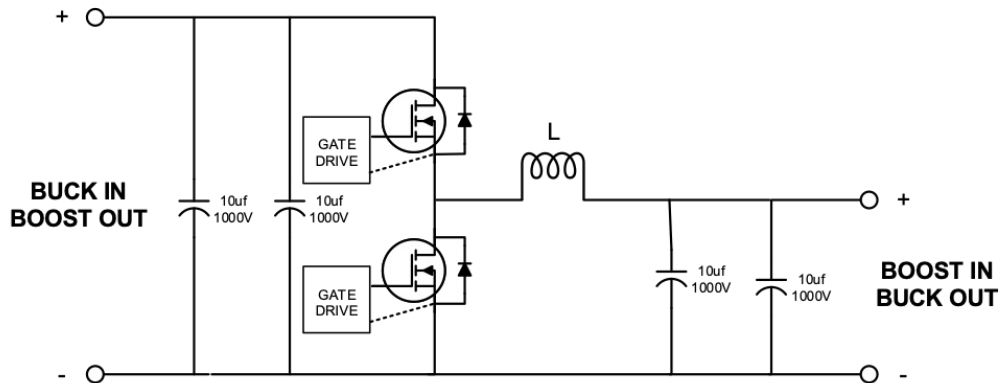
- SYNCHRONOUS BOOST CONVERTER
- SYNCHRONOUS BUCK CONVERTER
- NON-SYNCHRONOUS BOOST CONVERTER
- NON-SYNCHRONOUS BUCK CONVERTER
- HALF BRIDGE
- FULL BRIDGE (requires 2 kits)

Electrical Specifications

Parameter	Value	Notes
Max Input Voltage	800VDC	
Max Output Voltage	800VDC	
Output Power	2500W	Higher power operation is possible with a different inductor
Switching Frequency	100kHz	Higher frequency operation is possible but may require a different inductor

CRD3DD12P Buck Boost Evaluation Kit

System Top Level Schematic



Features

- Includes footprints for both 3 and 4 lead TO247 packages allowing for easy comparison
- Includes SMA connectors for capturing clean VGS waveforms
- MOSFET and diode footprints included in both top and bottom positions
- No additional capacitors needed to run in boost or buck converter topologies
- Gate drive circuit allows user to easily change RG, CGS, ferrite, etc.
- PWM inputs feature standard BNC connectors

