

## ***DC/DC Bi-Directional Converter for US Army HEV***

Vehicular oriented converter, high power density, patented internal fin cooling tube with 90°C fluid, modular and expandable by stacking in 10 kW increments. RCT Systems developed and constructed a 150kW/50kW bi-directional converter operating between a nominal 300VDC source/load and 610VDC source/load. The converter topology utilizes high power, high frequency conversion to provide galvanic isolation and high power density. While in the near term available silicon switching devices will be used the design will be suitable for eventual transition to the use of SiC wide band-gap devices at even higher switching frequencies, resulting in higher power, higher power density. This design is configured for cooling with high temperature oil.

