

100 kW Transit Vehicle Power Inverter Auxiliary Resonant Tank (ART) Technology

Objective

Rapid transfer of new ORNL inverter technology into the commercial automotive and transit vehicle marketplace.



ORNL 100kW ART inverter prototype



ART Soft-switching Technology Importance

- Allows simpler controls and higher reliability using lower component count compared with other soft-switching methods
- Provides improved switching for controlling dv/dt while reducing EMI
- Auxiliary devices undergo lower stress compared to other soft-switching topologies
- Easy retrofit adds flexibility and reliability to hard-switched inverters

Goals

- Advance state-of-the-art for transportation applications by reducing volume and weight
- Improve reliability and cost with component and system improvements

Technology Use

Installation in automotive and transit vehicles for improvement in energy efficiency and reliability, where reduced cost, weight, and volume are important.

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