OAK RIDGE NATIONAL LABORATORY
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Air Cooled traction Drive Inverter

Disclosure Number

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Technology Summary

An air-cooled traction drive inverter enables cooling with air thereby eliminating the existing liquid cooled thermal management system. By eliminating the liquid cooled thermal management system, the power density is increased and the volume and weight are decreased for electric-base vehicle traction-drive inverters. This concept enables the use of low temperature electronics in close proximity with high temperature power devices. The design can be modified for current source, voltage source, z-source inverter. A reduction in cost is also expected compared to a similar rated liquid cooled traction drive inverter.

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