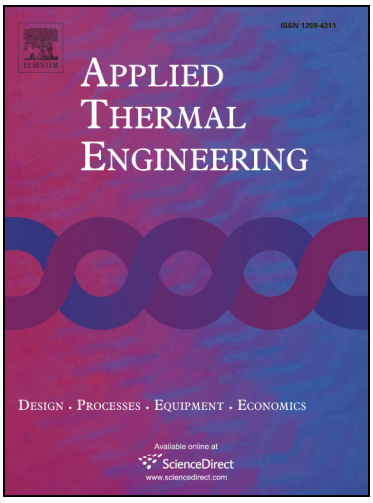

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Abstract

Continual increases in the functionality and miniaturization of electronic devices have resulted in a rapid increase in the power density of such devices. Thus, an efficient cooling technology is required to maximize heat dissipation and prevent electronic failure. Immersion cooling is a promising technique for the thermal management of high-power-density electronics. However, common working fluids in immersion cooling have high global warming potential, and the heat transfer performance of immersion cooling requires improvement to achieve efficient cooling of state-of-the-art high-power-density electronics. In this study, Novec 649, which has low global warming potential and a low boiling point, was applied as a working fluid for immersion cooling.