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that optimized variable-thickness-fin heat sinks have lower thermal resistances than optimized uniform-thickness-fin heat sinks in practical situations. The thermal resistance is reduced by as much as nearly 15% by employing variable-thickness-fins. The difference between the thermal resistances increases as the length

decreases and as the pumping power increases because the convective thermal resistance becomes dominant over the conductive thermal resistance as either the pumping power increases or the length decreases. Moreover, the variable-thickness-fin heat sinks can reduce the convective thermal resistance effectively without