Investigation of Heat Sink Efficiency for Electronic Component Cooling Applications - DTU Orbit (23/12/2018)

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Research and optimisation of cooling of electronic components using heat sinks becomes increasingly important in modern industry. Numerical methods with experimental real-world verification are the main tools to evaluate efficiency of heat sinks or heat sink systems. Here the investigation of relatively simple heat sink application is performed using modeling based on finite element method, and also the potential of such analysis was demonstrated by real-world measurements and comparing obtained results. Thermal modeling was accomplished using finite element analysis software COMSOL and thermo-imaging camera was used to measure the thermal field distribution. Ideas for future research involving improvement of the experimental setup and modeling verification are given.

General information
State: Published
Organisations: Department of Electrical Engineering, Electronics, Kaunas University of Technology
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Number of pages: 7
Pages: 49-54
Publication date: 2014
Peer-reviewed: Yes

Publication information
Journal: Elektronika ir Elektrotechnika
Volume: 20
Issue number: 1
ISSN (Print): 1392-1215
Ratings:
Web of Science (2018): Indexed yes
Scopus rating (2017): CiteScore 1.03 SJR 0.258 SNIP 0.631
Web of Science (2017): Impact factor 1.088
Web of Science (2017): Indexed yes
Scopus rating (2016): CiteScore 0.85 SJR 0.294 SNIP 0.677
Web of Science (2016): Impact factor 0.859
Web of Science (2016): Indexed yes
Scopus rating (2015): CiteScore 0.71 SJR 0.337 SNIP 0.601
Web of Science (2015): Impact factor 0.389
Scopus rating (2014): CiteScore 0.66 SJR 0.305 SNIP 0.658
Web of Science (2014): Impact factor 0.561
Web of Science (2014): Indexed yes
Scopus rating (2013): CiteScore 0.53 SJR 0.253 SNIP 0.656
Web of Science (2013): Impact factor 0.445
ISI indexed (2013): ISI indexed yes
Scopus rating (2012): CiteScore 0.49 SJR 0.226 SNIP 0.756
Web of Science (2012): Impact factor 0.411
ISI indexed (2012): ISI indexed yes
Scopus rating (2011): CiteScore 0.84 SJR 0.204 SNIP 1.075
Web of Science (2011): Impact factor 0.913
ISI indexed (2011): ISI indexed no
Scopus rating (2010): SJR 0.216 SNIP 0.274
Web of Science (2010): Impact factor 0.659
Web of Science (2010): Indexed yes
Scopus rating (2009): SJR 0.191 SNIP 0.101
Web of Science (2004): Indexed yes
Original language: English
Keywords: Finite Element Method, Heat sinks, Temperature measurement
Electronic versions:
20130126.full.pdf
DOIs:
10.5755/j01.eee.20.1.6167