

Case Study Modelling an Electronic Component

Azure Hutchings Jean-Luc Danoy
Faris Saad S Alsubaie

28 October 2019

Executive Summary

Write Abstract Here

Contents

1	Introduction	3
1.1	Purpose of the Report	3
1.2	Issues to be discussed and their significance	3
1.3	Research methods	5
1.4	Limitations and assumptions	5
2	Discussion	5
2.1	Method	5
2.1.1	Procedures	5
2.1.2	Sample Size	5
2.1.3	Selection Criteria	5
2.2	Discussion and analysis of data	5
2.2.1	Issue 1	5
2.2.2	Issue 2	5
2.2.3	Issue 3	5
2.2.4	Reliability and accuracy of data	5
3	Conclusions	5
4	Recommendations	5
4.1	Recommendation 1	5
4.2	Recommendation 2	5
5	References	5
6	Appendices	5
7	Group Meeting Summaries	5
8	Statement of Contribution	5

1 Introduction

1.1 Purpose of the Report

The following report investigates the steady-state heat distribution in a newly designed component.

The report will discuss the mathematical model of the heat distribution in the component and the numerical methods used to solve it in MATLAB.

1.2 Issues to be discussed and their significance

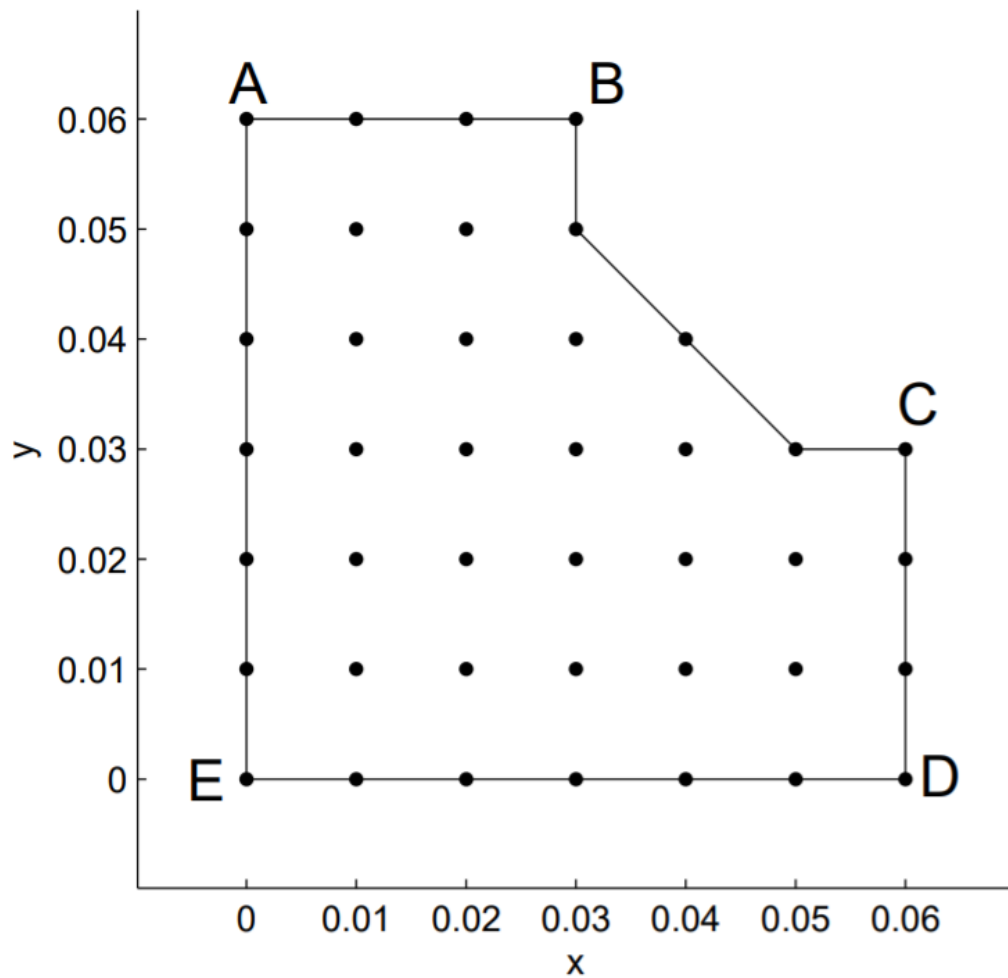


Figure 1: Schematic of electronic component.

The component schematic is shown in Figure 1. The location of the

component within the device means it's subject to different temperature condition along it's boundaries. The boundary A-B is in perfect thermal contact with another component which the temperature is known to 70°C . The boundary C-D is also in perfect thermal contact with another component which the temperature is known to be 40°C . The boundary A-E-D is thermally insulated and the boundary B-C is exposed to the air at ambient temperature.

1.3 Research methods

1.4 Limitations and assumptions

2 Discussion

2.1 Method

2.1.1 Procedures

2.1.2 Sample Size

2.1.3 Selection Criteria

2.2 Discussion and analysis of data

2.2.1 Issue 1

2.2.2 Issue 2

2.2.3 Issue 3

2.2.4 Reliability and accuracy of data

3 Conclusions

4 Recommendations

4.1 Recommendation 1

4.2 Recommendation 2

5 References

6 Appendices