The Silicon Circuits

(ElectroTex)

BY

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Statement of Submission

My research dissertation titled "The Silicon Circuits-ElectroTex" is being submitted for completion of Bachelor of Fashion Design (Textile Design) degree from School of Textile and Design, University of Management and Technology, Lahore, Pakistan.

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DECLARATION:

I hereby declare that all the information in this thesis is the result of my concerted efforts and my original work. This research work, to the best of my knowledge and belief, reproduces no material previously published or written, or that has been accepted for the award of any other degree or diploma, apart from where due acknowledgement has been made in the text.

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Acknowledgement

I would like to thank ALLAH all mighty for letting me live to see this thesis through. After that I am thankful to my parents who supported me morally and financially to get what I want too. I am forever thankful to ma'am Anika Sitara for her unwavering support, encouragement and patience through all this process. I can never payback the efforts and the help she have provided me. Thank you so much!

DEDICATION:

I am dedicating my thesis to my parents, friends and all the faculty members of school of textile and design who help me throughout in my degree program.

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Abstract

The Silicon circuits are the flat boards made-up of semiconductor material silicon and Germanium, used in electronics to conduct electronic signals. The tiny transistors and diodes are attached on it with engraved line pattern for electricity. As the word is dominated by electronic technology so silicon circuits are found in every gadget which comprise electronics such as cell phones, smart watch, computers and remote controls.

The pattern on silicon circuits is unique and has an amazing green texture, some blue and purple circuits are also available. This texture can be used in textile art as there is no limit in creativity. Alexander McQueen, a well-known British textile designer has once used these patterns in fashion surface design in 1998; He has used the lines on circuit boards in his apparel collection and made some unique dresses out of it, although his work was limited to only single technique which was screen printing, he simply extracted the lines pattern out of silicon boards and have set repeats of it on fabric, more techniques were not experimented at that moment.

A wide range of unique motifs could be extracted which can be merged with one another to form an interesting pattern which could be printed on fabric using some experimental techniques such as foil printing, glow printing, flock printing, and some digital prints can also be made. Furthermore 3D work would be added to enhance the true essence of modern day technology with LED lights, in additional more embroidery, fabric manipulation and fabric cut work would also be used on the final products. The final end product will be some westernize 3D dresses, which would be adding the high end techno look to the final collection, which will be the future of fashion creativity, as well as will symbolize the futurism, the dresses will be made for party wear having some elegant cuts and styles which will be wear in special occasions, along with dresses some innovative accessories will also be made to carry with dresses.

Chapter-1

Introduction

The Silicon Circuits

1.1 Definition:

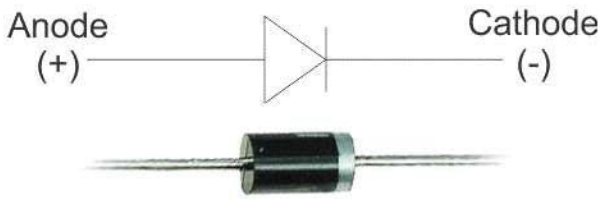
The Silicon circuits are the flat boards made-up of semiconductor material silicon and Germanium, used in electronics to conduct electronic signals [1]. The tiny transistors and diodes are attached on it with engraved line pattern for electricity. As the word is dominated by electronic technology so silicon circuits are found in every gadget which comprise electronics such as cell phones, smart watch, computers and remote controls.

Picture 1

The silicon is a crystalline solid element with hard metallic and brittle property [2].It doesn't react, and is represented by Si in periodic table and is placed under group 14, it is often found in sand as silica quartz [3]. Silicon along with Germanium is semiconductor of electricity [4].It means that they are neither conductor nor insulators but can transfer electricity in certain conditions.

1.2 Background:

The first ever semiconductor was created in 1947 [5]. Some impurities were added in silicon element to make the first ever diode, diode is like a miniature switch, which allows current to pass through only one direction [6].Since the invention of diodes the electronic technology was innovated, the tube technology in computers was replaced with diodes and transistors hence as a result nano-technology in electronic devices was formed.



Picture 2