Computer Assisted Manufacturing (CAM) - GERBER file viewer

April 2021 - June 2021

Operating System:
Android™
Browser:
Chrome
Development IDE:
Text editor
Language:
HTML, CSS, VanillaJS, SVG and RS-274

Unfinished Items:
1) Build a parts library.
2) Finish the software to eliminate manual editing.

Abstract

RS-274 *was created in the* ***1950s*** *by the* ***Massachusetts Institute of Technology*** *(MIT). It was a programming language used to control* ***CNC*** *machine tools. The name* ***Gerber*** *became associated with the language because it was used by* ***Gerber Systems Corp.*** *In* ***1998***, ***Gerber Systems Corp.*** *became part of a company which eventually became known as* ***Ucamco***. ***RS-274*** *was released by Ucamco in* ***1980*** *as a standard used in the production of* ***printed circuit boards*** *(PCBs). Gerber files represent the vector format of a printed circuit board in* ***ASCII***. ***RS-274X*** *(extended specification) was released by Ucamco in* ***1998***.

1 Introduction

In software development one often has to write code to parse data of various sorts. As an engineer one must deal with printed circuit boards (PCBs) in some capacity. This project is a combination of both of these aspects of engineering. It might be necessary at some point to create a prototype circuit board, yet the layout software being used did not include a tool to view the Gerber files produced by the software.

This project is an early version of a Gerber file viewer application which runs in a Web browser. It parses the Gerber file(s) produced by the layout software and renders an SVG image that approximates how the board will look when it is produced.

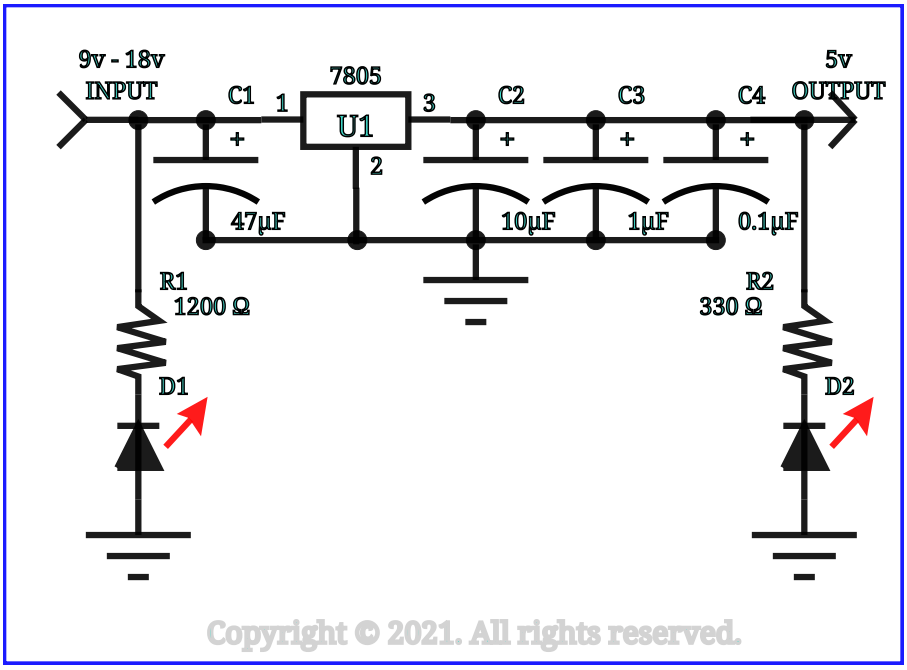

Figure 1: Sample schematic diagram used to provide test data.

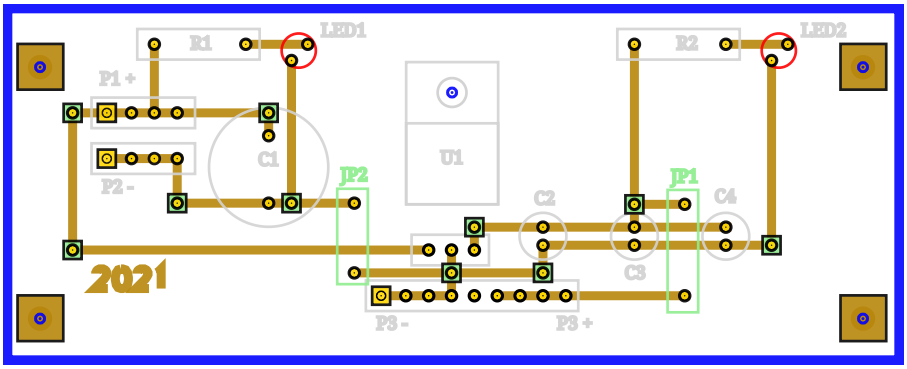

Figure 2: View of the test board produced by parsing the GERBER file.

References

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✔ **RS-274** was created in the **1950s** by the **Massachusetts Institute of Technology** (MIT).

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This is the specification for JavaScript.

✔ [13] “ECMAScript Internationalization API Specification – ECMA-402 Edition 1.0.” *Ecma International*, Dec-2012. [Online]. Available: https://402.ecma-international.org/1.0/. [Accessed: 13-Jun-2021].

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