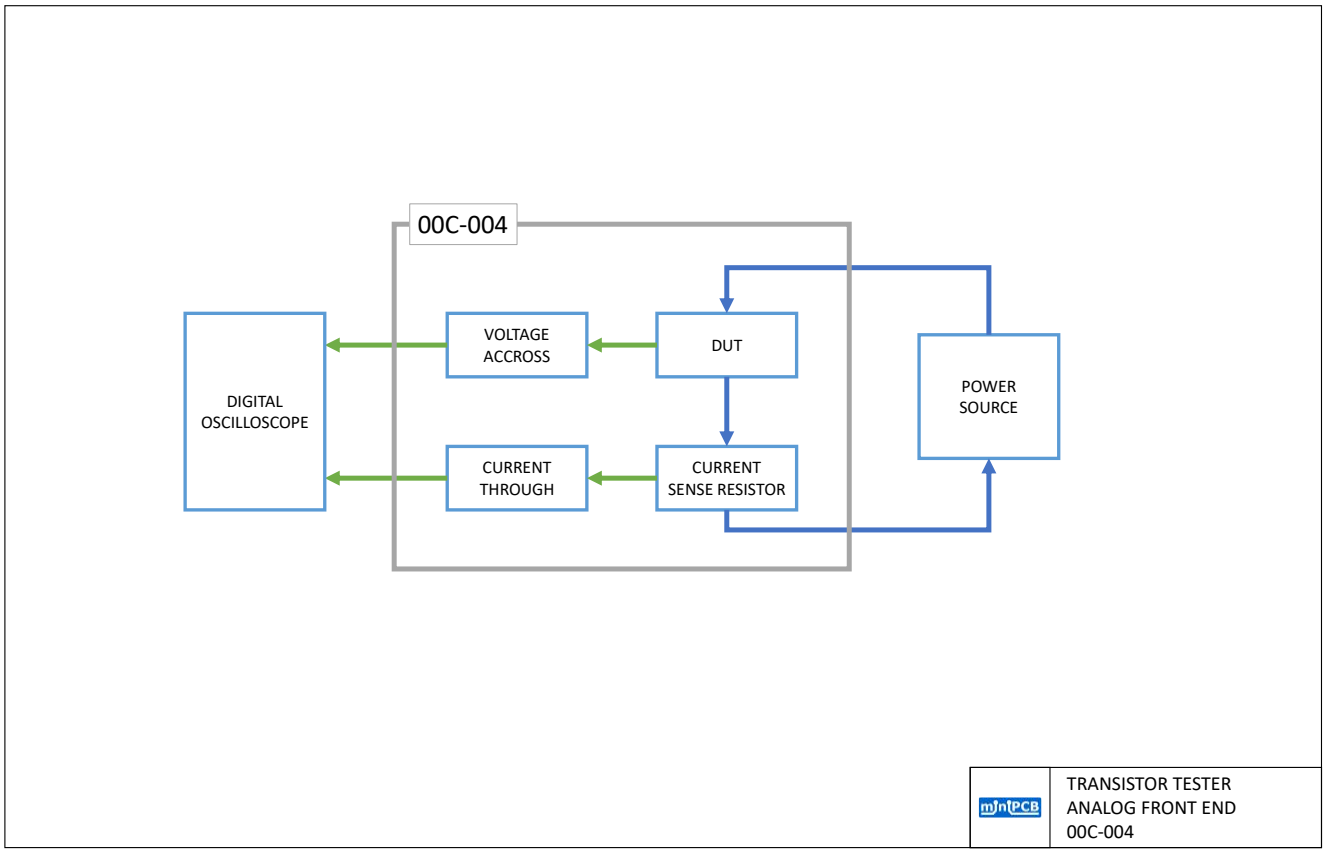
Power Transistor Tester

Introduction

The idea is to create an automated tester for power transistors. The automated test system (ATS) will be comprised of a unit under test (UUT) board, a power source, and a digital oscilloscope.

Block Diagram



Test Description

Each component will be tested in four (4) phases.

Burn-In: Multiple transitions from no load to maximum load.

Nominal Performance: Constant performance at 80% rated load.

Maximum Performance: Constant performance at 100% rated load.

Stress-Out: Ramped performance until component fails.

A report will be created after each component completes testing.

Target Performance Parameters

Maximum current: 300A.

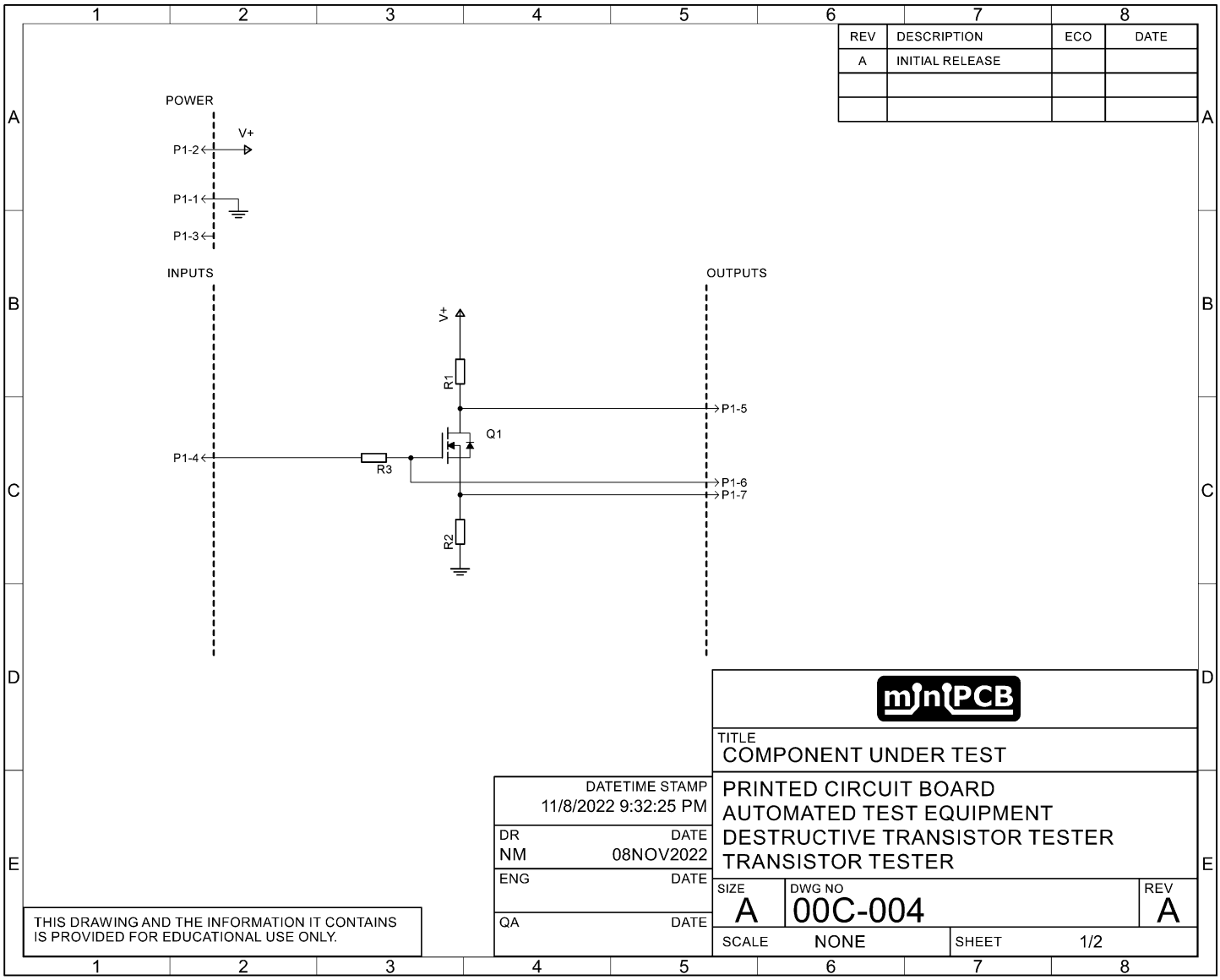
Maximum test duration: 15 minutes

Test profile: Adjustable

Test Parameters

- Voltage across transistor Drain and Source.
- Voltage across transistor Gate and Source.
- Current through transistor Drain and Source
- Current on/off Gate during switch event.

Schematic: Component Under Test



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Revision History

REV	DESCRIPTION	ECO	DATE
A	Initial Release	N/A	08NOV2022
B	Added information after watching IMSAI Guy #1312 Transistor Curve Tracer Basics (YouTube video).	N/A	17NOV2022
C	Updated block diagram and revised content.	N/A	05NOV2023