TTFSSDGHTR

Circuit Board Documentation

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Abstract

This circuit provides a small daughter board for the TTFSS circuit to increase the gain of the high voltage line. The board should be placed into the TTFSS circuit **instead** of C29.

Contents

Safety Instructions

In order to operate the circuit properly and safely, review the following guidelines before installing and using the unit. Failure to do so may result in equipment damage or bodily injury:

This circuit was designed as a laboratory equipment to be operated only by trained and qualified technicians in research institutes or development departments. For safety reasons, usage by other persons or in other environments is *not* recommended.

- This circuit uses extra-low voltage ($< 50\,V_{AC}$ and $< 75\,V_{DC}$) and is therefore exempt from the regulations of the *Low Voltage Directive* (2006/95/EC).
- The unit does not contain any mechanical drive system. Therefore, the regulations of the *Machinery Directive* (2006/42/EC) do not apply.

Sicherheitshinweise

Nehmen Sie vor Aufbau und Inbetriebnahme des Geräts folgende Empfehlungen zur Kenntnis, um die Schaltung korrekt und sicher zu betreiben sowie Schäden und Verletzungen zu vermeiden:

Diese Schaltung wurde als Laborausrüstung entworfen, die nur von qualifizierten und eingewiesenen Technikern in Forschungsinstituten oder Entwicklungsabteilungen benutzt wird. Aus Sicherheitsgründen wird die Verwendung durch andere Personen oder in anderer Umgebung *nicht* empfohlen.

- Diese Schaltung verwendet Kleinspannung ($< 50\,V_{AC}$ und $< 75\,V_{DC}$) und unterliegt daher nicht den Bestimmungen der *Niederspannungsrichtlinie* (2006/95/EC).
- Das Gerät enthält kein mechanisches Antriebssystem – die Bestimmungen der *Maschinenrichtlinie* (2006/42/EC) sind daher nicht anwendbar.
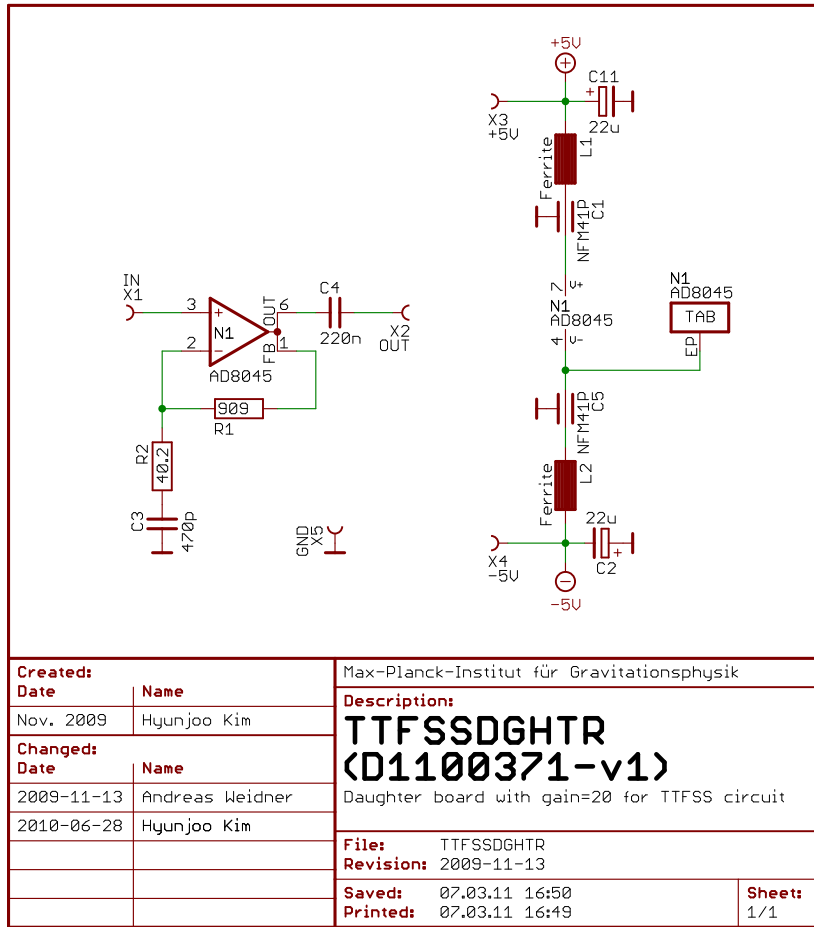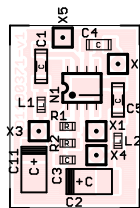
Figure 1: *Project schematics*

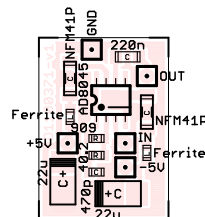**Figure 2:** *Board top view showing placeplan with component names*

Figure 3: *Board top view showing placeplan with component values*

Circuit Lists

Value list: The following list shows all components available on the board (sorted by part *values*) and can be used to quickly gather components. Additional information can possibly be found directly on the board (or in the schematics).

```
1   EAGLE Version 5.11.0 Copyright (c) 1988-2010 CadSoft
2   Board value list of 'TTFSSDGHTR.brd'
3   Exported at 2011-03-07 16:50
4   Created with macro 'plot.ulp' (c) Andreas Weidner
5   Shown are: Value/Type,Package,Number,Names (Library)
6
7   ---C---
8   470p    C-SMD:0805  (1*)    C3 (divers)
9   220n    C-SMD:1206  (1*)    C4 (divers)
10  22u     CE-SMD:C    (2*)    C2,C11 (divers)
11  NFM41P  CF01        (2*)    C1,C5 (divers)
12
13  ---L---
14  Ferrite L-SMD:0805  (2*)    L1,L2 (divers)
15
16  ---N---
17  AD8045  SO08-EP2    (1*)    N1 (opamps)
18
19  ---R---
20  40.2    R-SMD:0805  (1*)    R2 (divers)
21  909     R-SMD:0805  (1*)    R1 (divers)
22
23  ---X---
24  -5V     XP01N       (1*)    X4 (connectors)
25  +5V     XP01N       (1*)    X3 (connectors)
26  GND     XP01N       (1*)    X5 (connectors)
27  IN      XP01N       (1*)    X1 (connectors)
28  OUT     XP01N       (1*)    X2 (connectors)
```