

60V Input - 5V @ 50mA Output High Voltage Fixed Output Regulator

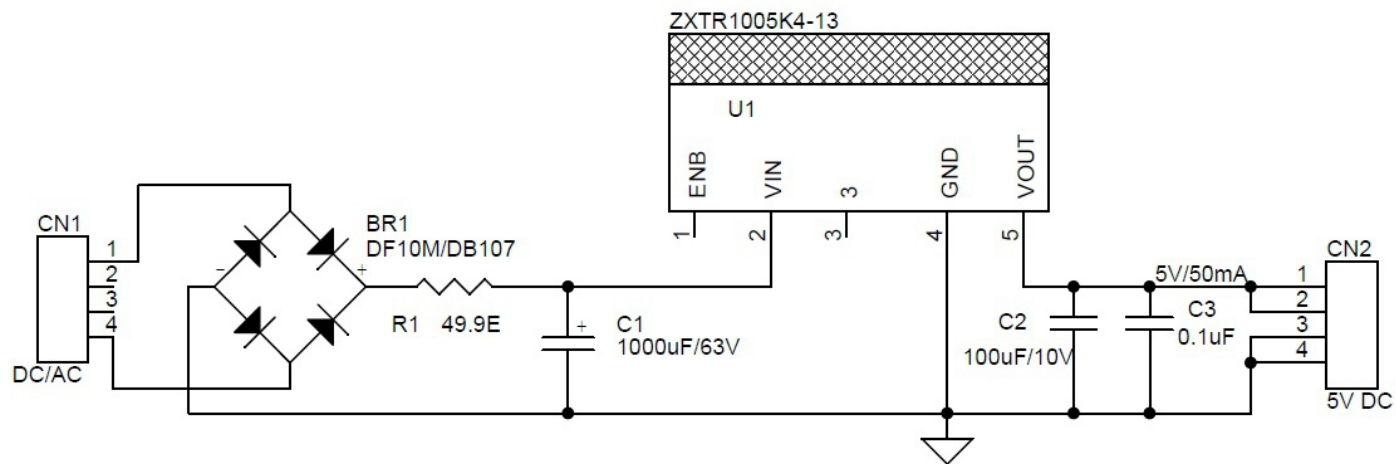
This is a high voltage regulator project that provides 5V regulated output with a load capacity of 50mA from input supply 10V to 60V. The project is based on the ZXTR1005K4 regulator which is fully integrated into a TO252 package. We have tested this project with 60V DC input, but the project can take higher voltage input up to 100V, please refer to the datasheet below for more info, and don't forget to change the capacitor C1 with a higher voltage rating.

Components: CN1 Supply Input AC/DC , BR1 Bridge Rectifier converts AC voltage into pulsating DC Voltage, R1 current limiting resistor use 1 ohm to 50ohms, Capacitor (C1) smoothing capacitor converts the full-wave rippled output of the rectifier into a more smooth DC output voltage, U1 High Voltage regulator, Capacitor (C2, C3) filter capacitor on the output.

Features

- Supply Input 10V to 60V DC or 6V to 40V AC
- Output 5V DC, Load Up to 50mA
- AC/DC Input
- Series Resistor to Limit the Input current
- Large Size Capacitor on input DC Bus for Low Ripple Output
- Tantalum Capacitor at Output for Stable Output
- PCB Dimensions 50.80MM X 34.29MM

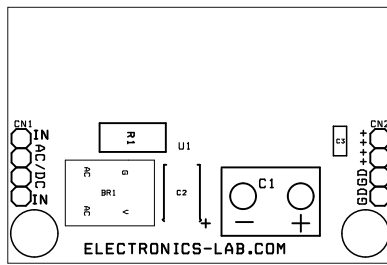




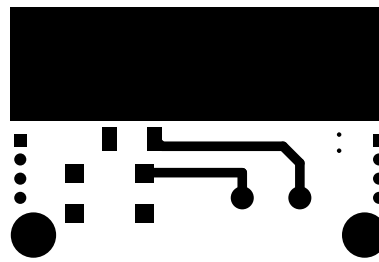


| BOM | | | | |
|-----|------|------|---------------------------------|------------------------------|
| NO. | QNTY | REF. | DESC. | SUPPLIER/MANUFACTURER |
| 1 | 1 | BR1 | DF10M/DB107 1A BRIDGE RECTIFIER | DIGIKEY 1655-1822-1-ND |
| 2 | 1 | CN1 | 4 PIN MALE HEADER 2.54MM PITCH | DIGIKEY S1011EC-40-ND |
| 3 | 1 | CN2 | 4 PIN MALE HEADER 2.54MM PITCH | DIGIKEY S1011EC-40-ND |
| 4 | 1 | C1 | 1000uF/63V | DIGIKEY 493-1129-ND |
| 5 | 1 | C2 | 100uF/10V SMD TANTULUM | DIGIKEY 478-1704-1-ND |
| 6 | 1 | C3 | 0.1uF/50V SMD SIZE 0805 | YAGEO |
| 7 | 1 | R1 | 49.9E/47E 5% SMD SIZE 2512 | DIGIKEY RMCF2512FT49R9CT-ND |
| 8 | 1 | U1 | ZXTR1005K4-13 SMD TO252 | DIGIKEY ZXTR1005K4-13DICT-ND |

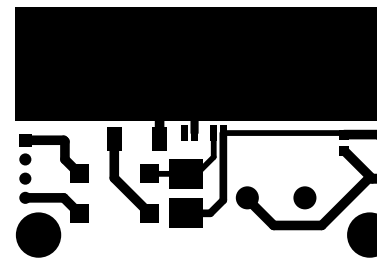




SILK SCREEN TOP



BOTTOM LAYER



TOP LAYER

PCB DIMENSIONS 50.80MM X 34.29MM

