

Isolated Power Supply For RS485,RS422,RS232,SPI,I2C and Power LAN

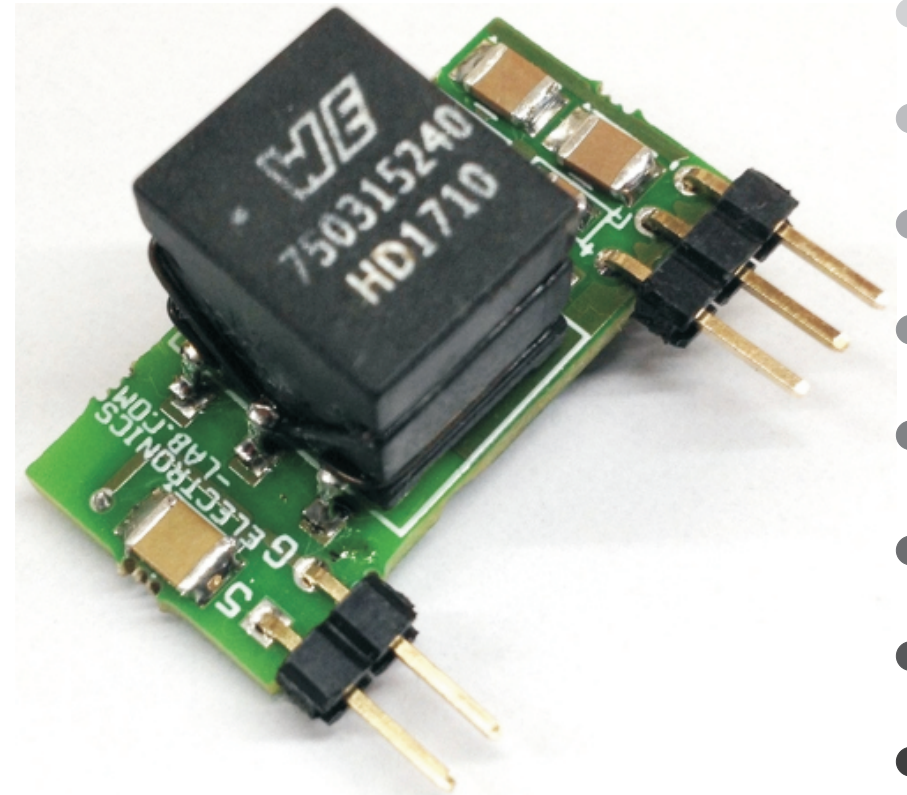
Mini Isolated Power Supply is designed for CAN, RS-485, RS-422, RS-232, SPI, I2C, Low-Power LAN application. The power supply provides +/- 5.50 V symmetrical outputs with load current 500mA from 5V DC input. The project is built using SN6505A IC from Texas instruments. The SN6505A is a low noise, low-EMI push-pull transformer driver, specifically designed for small form factor, isolated power supplies. It drives low profile, center-tapp transformers 5 V DC power supply. Ultra-low noise and EMI are achieved by slew rate control of the output switch voltage and through Spread Spectrum Clocking (SSC). The SN6505 consists of an oscillator followed by a gate drive circuit that provides the complementary output signals to drive ground referenced N-channel power switches. The device includes two 1-A Power-MOSFET switches to ensure start-up under heavy loads. The interprotection features include a 1.7A current limiting, under-voltage lockout, thermal shutdown, and break-before-make circuitry. SN6505 includes a soft start feature that prevents high inrush current during power up with large load capacitors.

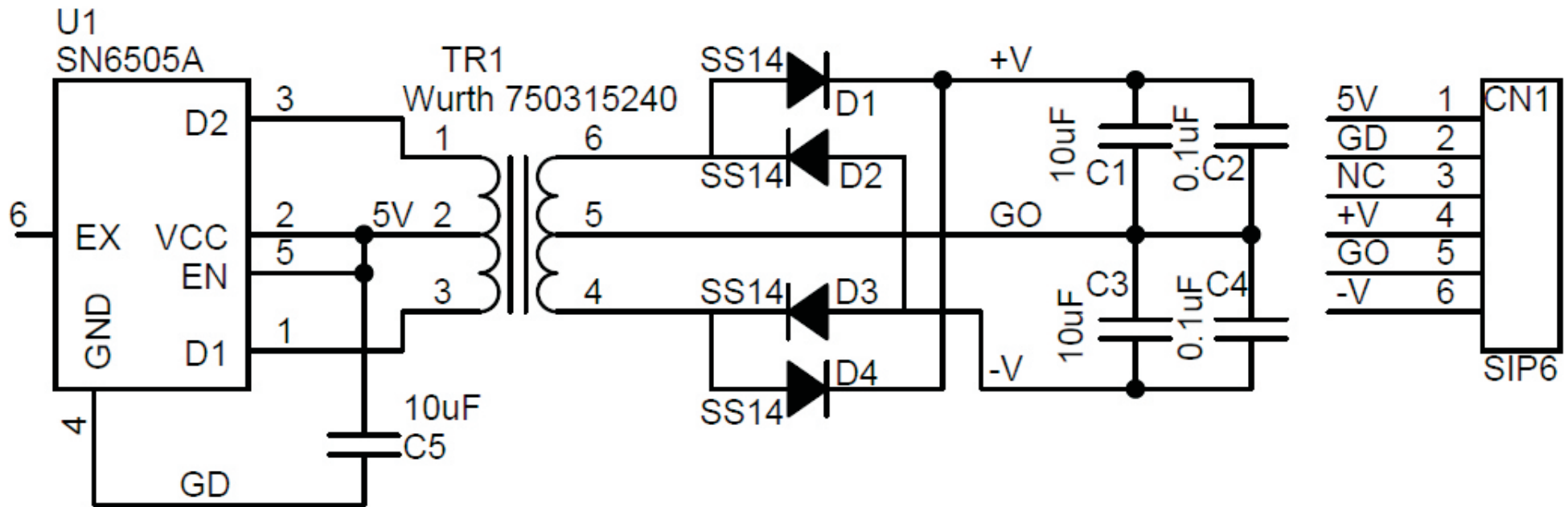
Features

- Input Supply 5V DC
- Output +/- 5.50 V DC symmetrical outputs
- Output Current 500mA Approx.
- Ultra-Low EMI
- Spread Spectrum Clocking
- Precision Internal Oscillator Options: 160 kHz (SN6505A)
- Slew-Rate Control
- 1.7 A Current-Limit
- Low Shutdown Current: <1 μ A
- Thermal Shutdown
- Wide Temperature Range: -55°C to 125°C
- Soft Start to reduce In-rush current

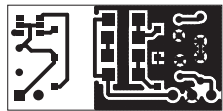
Applications

- Isolated Power Supply for CAN, RS-485, RS-422, RS-232, SPI, I2C, Low-Power LAN
- Low-Noise Isolated USB Supplies
- Process Control
- Telecom Supplies
- Radio Supplies
- Distributed Supplies
- Medical Instruments
- Precision Instruments
- Low-Noise Filament Supplies





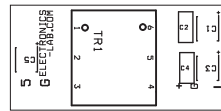
BOM			
SR.	QNTY.	REF.	DESC.
1	1	CN1	2 PIN HEADER CONNECTOR
2	3	C1,C3,C5	10uF SMD 1210
3	2	C2,C4	0.1uF SMD 0805
4	4	D1,D2,D3,D4	SS14 SMD VISHAY
5	1	TR1	Wurth 750315240 TRANSFORMER
6	1	U1	SN6505A SOT23/DBV
7	1	CN2	3 PIN HEADER CONNECTOR



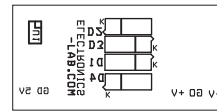
BOTTOM



TOP



SILK SCREEN TOP



SILK SCREEN BOTTOM