

SG3525 PWM Module with Dual Source/Sink Outputs

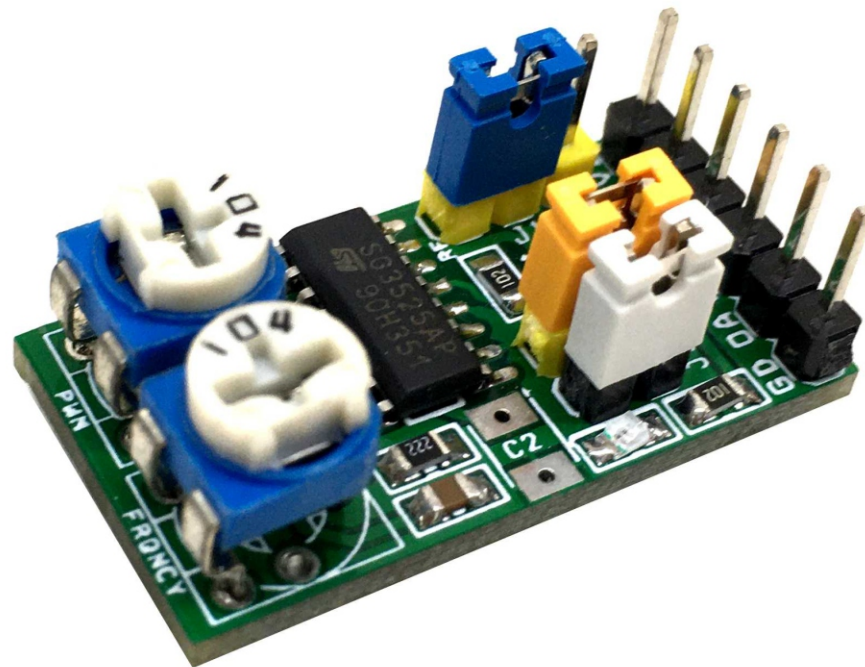
Sg3525 PWM module is a great tool for every hobbyist. This circuit can be used in various applications such as switching power supply, DC-DC converter, DC motor speed controller, LED dimer, High voltage power supply, solenoid driver, and electronic DC load. This low-cost pulse width modulator control circuit offers improved performance. The circuit has various options such as adjustable PWM, adjustable frequency, optional soft start, dual source/sink output with 50% duty cycle, single output with 0 to 100% duty cycle and output signal voltage level TTL-5V or 12V selection using a jumper. The 5V PWM signal is rated at low current hence don't draw more than 20mA. The 12V outputs are capable to drive a MOSFET directly.

This module also has the feature of dual source/sink outputs. The output stages are totem-pole design capable of sinking and sourcing in excess of 200mA. The output stage of the SG3525A features NOR logic resulting in a low output for an off-state, both outputs are capable to drive the gate of a MOSFET. Open the jumpers J2 and J3 to set the module for source/sink mode. In this mode output frequency is 105Hz to 3.2Khz. Use R2 10 Ohms for source and sink mode.

Note: This IC is capable to work at frequency 100 Hz to 400Khz. Output frequency span is dependent on capacitor C3 value, I have used 0.1uF capacitor which set the frequency 215Hz to 6.5Khz, by changing capacitor value 0.01uF frequency range would change to 2.2Khz to 65Khz.

Features

- Supply 12V DC (8-12V)
- Frequency 215Hz to 6.5Khz (Single Output Mode)
- Duty Cycle 0 to 100%
- Frequency 105 Hz to 3.2Khz Dual output Source/Sink
- Duty Cycle Dual mode 0 to 50%
- Soft start Optional (Mount C2 10/16V Capacitor for Soft start)
- On Board Power LED





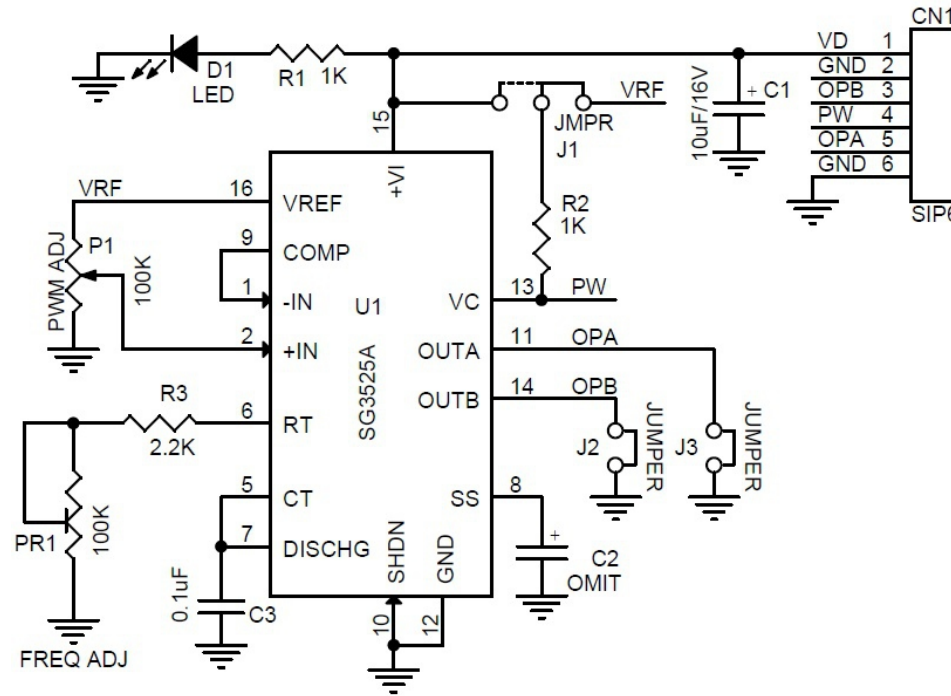
Single Output (0 to 100% Duty Cycle)

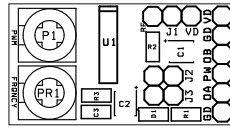
- Close Jumper J2 and J3
- Trimmer Potentiometer P1 Duty Cycle Adjust 0 to 100%
- Trimmer Potentiometer PR1 Frequency Adjust 215Hz to 6.5Khz
- Jumper J1 output voltage level selection 5V or 12V
- If soft start required: Mount C2 10uF/16V for soft start or Omit for normal operation
- CN1 Pin 4-PW and GND provides output

Dual Outputs (0 to 50% Duty Cycle)

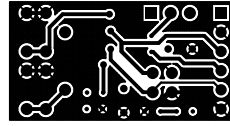
- Open Jumper J2 and J3
- Trimmer Potentiometer P1 Duty Cycle Adjust 0 to 50%
- Trimmer Potentiometer PR1 Frequency Adjust 105Hz to 3.2Khz
- Jumper J1 output voltage level selection 5V or 12V
- If soft start required: Mount C2 10uF/16V for soft start or Omit for normal operation
- CN1 Pin 3 OPB and Pin 5 OPA dual source Sink outputs



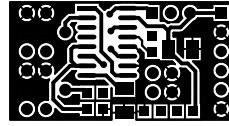




SILK SCREEN TOP



BOTTOM LAYER



TOP LAYER

PCB DIMENSIONS 29.85MM X 15.88MM

SR.	QNTY	REF	DESC
1	1	CN1	6 PIN MALE HEADER 2.54MM
2	1	C1	10uF/16V SMD TANTLUM 1210
3	1	C2	OPTIONAL 10uF/16V 1210 (NOTE)
4	1	C3	0.1uF SMD 0805
5	1	D1	LED SMD 0805
6	1	J1	JUMPER 3PIN /CLOSOR
7	2	J2,J3	JUMPER 2PIN /CLOSOR
8	2	PR1,P1	100K TRIMMER POT
9	2	R1,R2	1K SMD 0805
10	1	R3	2.2K SMD 0805D
11	1	U1	SG3525A SO16 NARROW

