

## USB POWERED AUDIO AMPLIFIER

USB powered mini speaker amplifier conveniently powered by USB and simple to set up, USB powered speakers are convenient for listening to your media while at home or on the go. Conventional computer speakers that require an electrical outlet to work can be prohibitive because they force you to be close to the power supply at all times. Directly insert the amplifier to USB port and connect the input signal and have real high quality sound output from mini speakers or headphone. It is class AB amplifier can drive 16 to 32 ohms load.

### Features

Supply USB Power 4.5V to 5.5V

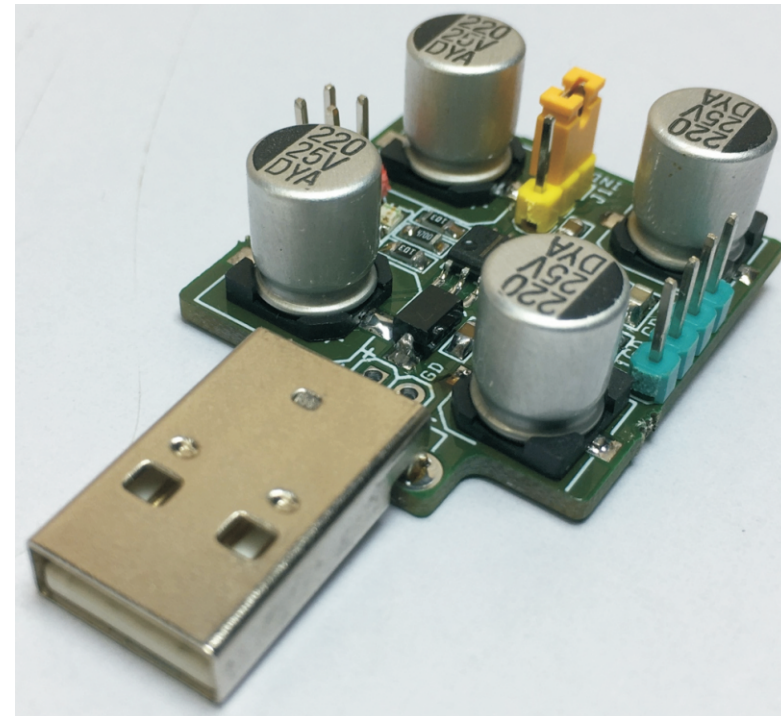
Ultra-High PSRR Stereo Headphone Driver

93dB typ PSRR at 20kHz Operates Directly from Noisy Digital Supplies

Clickless/Popless Power Up, Power Down, Mute and Unmute

PC99 Compliant Output Drivers:

Better than 1VRMS Output into 16Ω Load and 1.5VRMS and 0.0008% THD+N into 10kΩ Load





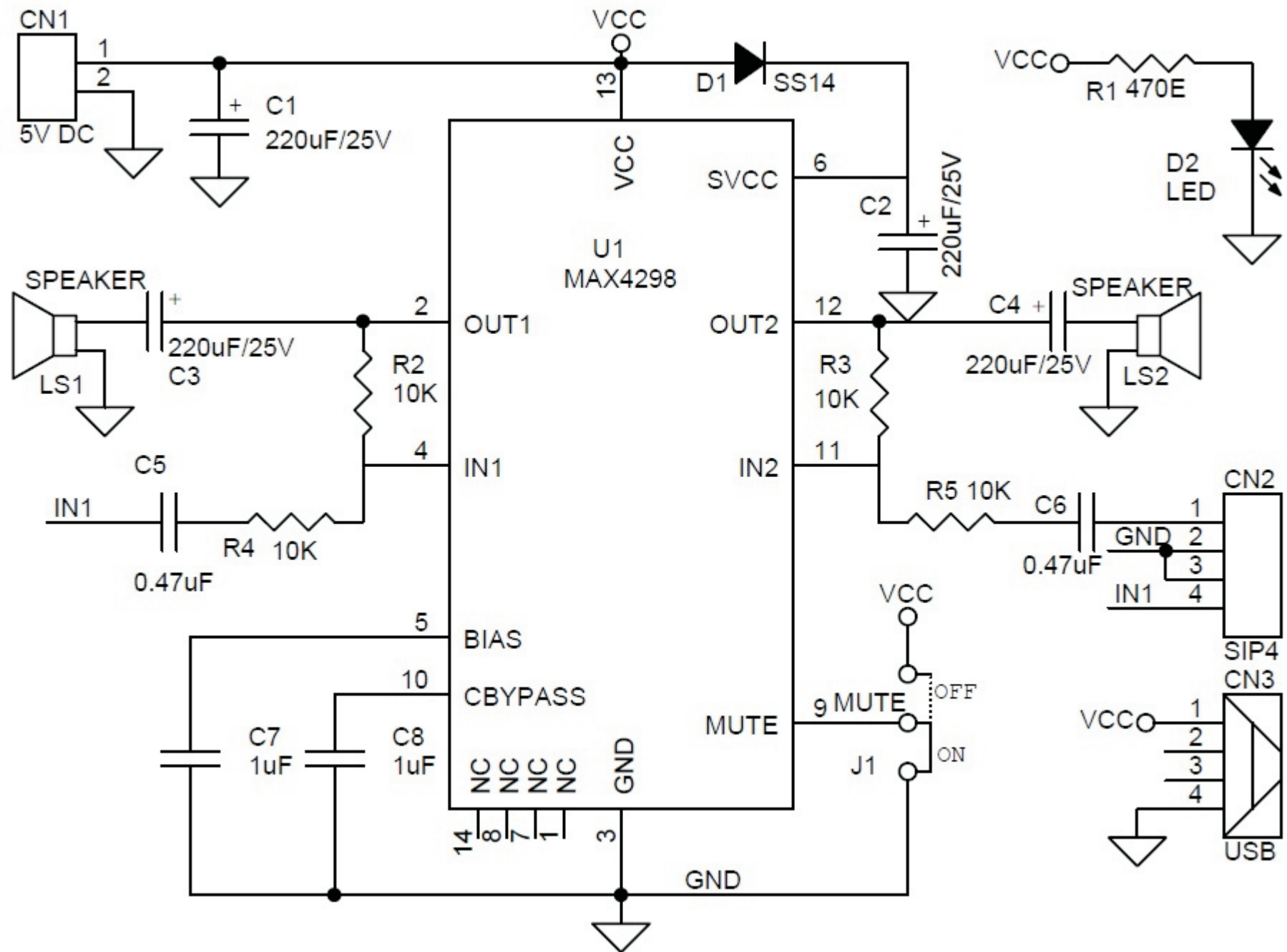
The headphone driver amplifier is a class AB amplifier designed to drive  $16\Omega$  loads. The amplifiers have innovative architectures for both the input and output stages to achieve ultra-high PSRR while maintaining rail-to-rail output drive capability. The output stage can drive high capacitive loads encountered when driving long cables used for desktop speakers or headphones.

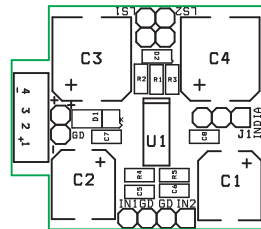
The MAX4298 is audio system ICs designed for single +5V applications. The MAX4298 features a stereo headphone driver. The MAX4298 IC designed specifically for harsh digital environments where board space is at a premium and the digital power supply is noisy. The design uses innovative design techniques to achieve ultra-high power-supply rejection across the audio signal band while, at the same time, delivering a high-current Rail-to-Rail output drive capability. The chip is designed to drive highly capacitive loads that may be encountered when driving long cables to a remote load such as desktop/notebook headphones or speakers. These devices are fully compliant with PC99 standards.

The amplifiers exhibit 115dB of DC power-supply rejection and 80dB at 100kHz. The output amplifiers are capable of driving a 1.5VRMS signal into a 10-kilohm load with 0.0008% THD+N. They can also drive  $32\Omega$  headphones to 1.2VRMS with 0.02% distortion.

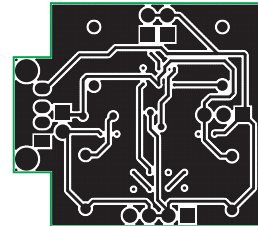
The MAX4298 has short-circuited current protection on all outputs. They also have a thermal shutdown function designed to protect the chip from junction temperatures in excess of  $+150^{\circ}\text{C}$  that may arise from temporary short circuits or operation beyond the power dissipation limit of the package. The driver amplifier outputs limit at around  $\pm 220\text{mA}$ .



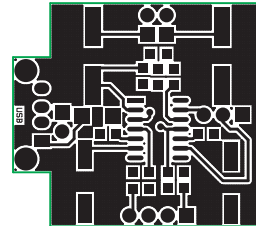




SILK SCREEN TOP



BOTTOM LAYER  
PCB DIMENSIONS  
33.50X29.66MM



TOP LAYER

BOM			
SR.	QNTY.	REF	DESC
1	1	CN1	2 Pin Male Header Connector
2	1	CN2	4 Pin Male Header Connector
3	1	CN3	USB
4	4	C1,C2,C3,C4	220uF/25V SMD
5	2	C5,C6	0.47uF/16V SMD 0805
6	2	C7,C8	1uF/16V SMD 0805
7	1	D1	SS14 SMD DIODE VISHAY
8	1	D2	LED SMD 0805
9	1	J1	3 PIN JUMPER
10	2	LS1,LS2	2 Pin Male Header Connector
11	1	R1	470E SMD 0805
12	4	R2,R3,R4,R5	10K SMD 0805
13	1	U1	MAX4298

