

# Audio Amplifier Board

## IRS2092 Series

### 1 X 2500 Watt 2 Ohm Class D Audio Amplifier Board – IRS2092

(AA-AB31491)

Welcome to use this 1 x 2500W Class D audio amplifier board by Sure Electronics. It integrates high performance IRS2092 and IR MOSFET IRFB4227 supporting single channel audio amplification.

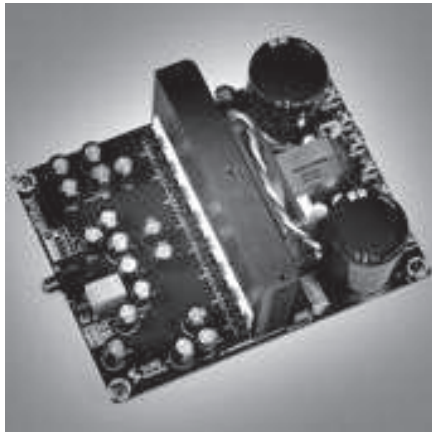
It features self-oscillating half-bridge topology with optional clock synchronization. It is capable of outputting full range up to 2500W RMS @ 2 Ohm continuously.

It can be bridged with another one for higher output, around 5000W RMS @ 4 Ohm, without external circuitry.

High reliability is ensured due to extensive protection, including overtemperature turn-off, DC offset speaker protection, over current protection over voltage protection. It utilizes a noiseless fan along with temperature sensors to maintain the amplifier's target temperature.

It's suitable for amplifier enthusiasts or hobbyists to finish a complete amplifier system. It is targeted to high-end / high power sound systems like disco, active speakers, large subwoofers for PA (Professional Audio), high power studio monitors and high power hi-end hi-fi systems.

FIGURE 3-32 OVERVIEW



#### Features

- Size: 6 inch x 4.5 inch
- Supply voltage: DC  $\pm 60V$  to  $\pm 94V$
- Under voltage protection
- Over current protection
- Over temperature protection
- DC offset protection
- High efficiency and optimal heatsink

#### Applications

- Musical instrument amplifiers
- Prototype for recording studios, Post-production, Live sound and Hi-Fi applications
- PA system
- Broadcast system
- Active subwoofer

TABLE 3-32 ELECTRICAL CHARACTERISTICS

Following table lists all typical data of the Amp board. For full specification, please refer to the data sheet of IRS2092 chip.

$-40^{\circ}C \leq T_j \leq 125^{\circ}C$ ,  $f_{IN} = 1$  kHz sine wave,  $R_L = 2\Omega$ ,  $V_S = COM = 0$  V. (Unless otherwise stated)

Parameter	Condition	Min	Typ	Max
Supply Voltage (V)	-	60	85	94
Quiescent Current (mA)	FAN OFF V = $\pm 80V$ $R_L = 2\Omega$	-	-75 +21	-
Input Sensitivity (mV)	$R_L = 2\Omega$	-	2400	-
Input Impedance (Kohm)	-	-	3.6	-
Gain (dB)	Voltage gain	-	30	-
Output Power (W rms)	-	-	2500	-
Efficiency (%)	Output rating power.	-	90	-
Minimum Load (ohm)	-	-	1	-
Frequency Response (dB)	$\pm 3dB$	20	-	22k
Operating Temperature ( $^{\circ}C$ )	-	0	20	50