

Mid Power Stereo Series

2 X 250Watt 8 Ohm

Class D

Audio Amplifier Board - IRS2092

(AA-AB32291)



Key Features:

- Output Power
250W@8ohm ±70V DC THD+N 10%
180W@8ohm ±70V DC THD+N 1%
- Power and Clip Indicator
- Temperature Control Fan
- Full Protection
- Optimized Heatsink Design
- 4-screw Easy Installation
- Weight:480g/0.31 lbs (±10%)
- Size:6inchX4.5inchX2.4inch

Electrical Specifications

Specifications typical @ +25°C, Powered by ±70V DC, unless otherwise noted. Specifications subject to change without notice.

Parameter	Conditions	Min.	Typ.	Max.	Units
Power Supply	-	±60	±70	±80	VDC
Idle Power	SD Floating	-	12.6	20	W
Standby Power	SD Connected to GND, FAN OFF	-	-	-	W
Maximum Current	500W @8Ohm	-	8	-	A
Efficiency	250W @8Ohm	87	-	92	%
Minimum Load Impedance	-	-	8	-	Ω
Switching Frequency	SD Floating	-	285/240	-	KHz
Under voltage protection	-	-	39	-	V
Over voltage protection	-	-	51	-	V
Over Temperature protection	-	-	91	-	°C

Audio Performance

Specifications typical @ +25°C, Powered by 36V DC, unless otherwise noted. Specifications subject to change without notice.

Parameter	Conditions	Min.	Typ.	Max.	Units
Gain	-	29	31	33	dB
Input Sensitivity(RMS)	@8Ω, 250W,1KHz	-	1.17	-	V
Input Impedance	-	-	100	-	KΩ
Output Power	@8Ω THD+N 1% @8Ω THD+N 10%	-	180 250	-	W
Bandwidth @ ±3dB	@8Ω	20	-	20K	Hz
THD	@8Ω, 1W, 1KHz @8Ω, 10W, 1KHz	-	0.004 0.016	-	%
Output Noise Level	A-weighting, Input Connected to GND	-	355	-	μV
SNR	180W @8Ω THD+N 1%	-	82	-	dB

Environmental Conditions:

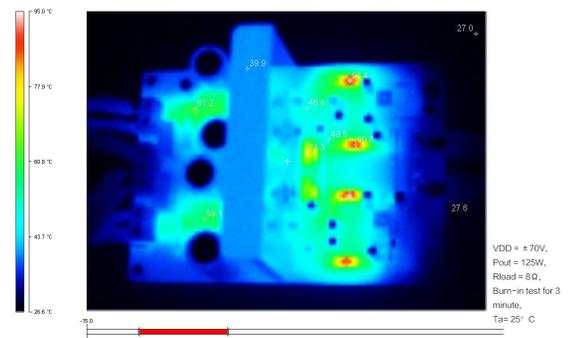
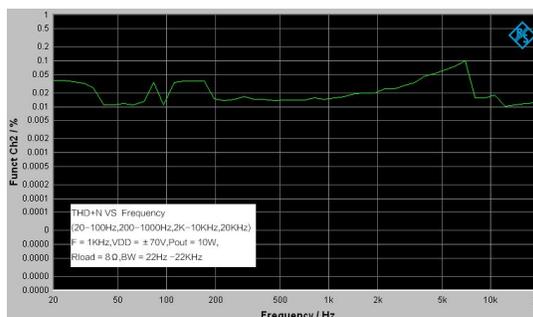
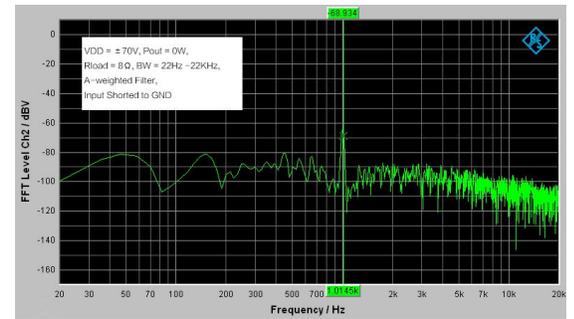
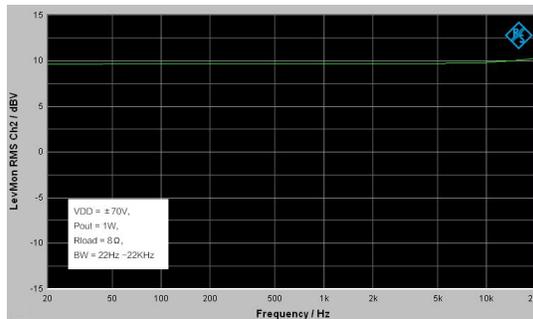
- Humidity: 5-85% RH Non-condensing
- Operating Temperature Ambient: 0°C to +55°C
- Storage Temperature: -40°C to 85°C

All these boards are per-tested with our power supply solution to comply with FCC and CE. For all customers who need those information, please contact our distributor or Sure Electronics. RoHS compliant will need an MOQ of 1000pcs per order.

Ready for:



RoHS



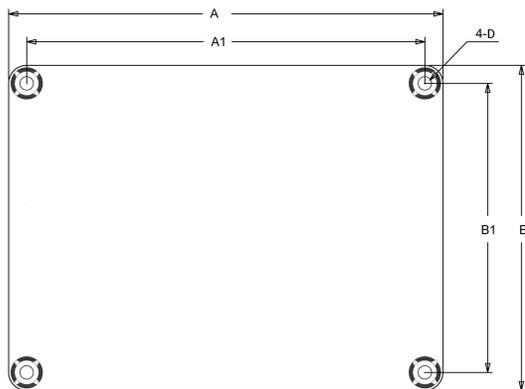
All parameters were tested with Rohde & Schwarz UPV audio analyzer (AES17 filter enabled) and AP AUX0025 filter. For authorized distributors and OEM customers who need more detailed performance graphs and parameter settings, please send an inquiry e-mail to us. (Not available for retail customers)



Model Selection Guide

Model Number	Output Power	Power Supply Range	Typical Load	Amplifier IC	Dimensions
AA-AB32189	2 X 100Watt	DC 15-36V	6Ω	TDA7498	4.8"X3.6" ^{#1}
AA-AB32361	2 X 160Watt	DC 15-36V	4Ω	TDA7498E	4.8"X3.6"
AA-AB32971	2 X 100Watt	DC 15-36V	4Ω	T-AMP	4.8"X3.6"
AA-AB32281	2 X 200Watt	DC 15-36V	3Ω	T-AMP	4.8"X3.6"
AA-AB32195	2 X 300Watt ^{*1}	DC 15-42V	3Ω	T-AMP	4.8"X3.6"
AA-AB32313	2 X 400Watt ^{*1}	DC 15-46V	3Ω	T-AMP	4.8"X3.6"
AA-AB32512	2 X 500Watt ^{*1}	DC 25-52V	3Ω	T-AMP	4.8"X3.6"
AA-AB32192	2 X 300Watt	DC 25-52V	4Ω	TAS5630B	4.8"X3.6"
AA-AB32221	2 X 150Watt	DC 15-36V	4Ω	TAS5613	6"X4.5" ^{#2}
AA-AB32191	2 X 300Watt	DC 25-52V	4Ω	TAS5630B	6"X4.5"
AA-AB32196	2 X 300Watt ^{*2}	DC 15-42V	3Ω	T-AMP	6"X4.5"
AA-AB32314	2 X 400Watt ^{*2}	DC 15-30V	3Ω	T-AMP	6"X4.5"
AA-AB32514	2 X 500Watt ^{*2}	DC 15-35V	3Ω	T-AMP	6"X4.5"
AA-AB32432	2 X 750Watt	DC 25-80V	4Ω	T-AMP	6"X4.5"
AA-AB32321	2 X 125Watt	DC ±45-±60V	8Ω	IRS2092	6"X4.5"
AA-AB32291	2 X 250Watt	DC ±60-±80V	8Ω	IRS2092	6"X4.5"
AA-AB32511	2 X 500Watt	DC ±55-±65V	4Ω	IRS2092	6"X9" ^{#3}
AA-AB32431	2 X 750Watt	DC ±55-±65V	4Ω	IRS2092	6"X9"

Mechanical Dimensions



Dimensions	A (inch/mm)	A1 (inch/mm)	B (inch/mm)	B1 (inch/mm)	D (inch/mm)
#1	4.80/121.92	4.40/111.76	3.60/91.44	3.20/81.28	0.14/3.60
#2	6.00/152.40	5.60/142.24	4.50/114.3	4.10/104.14	0.14/3.60
#3	6.00/152.40	5.90/149.86	9.00/228.60	8.60/218.44	0.14/3.60

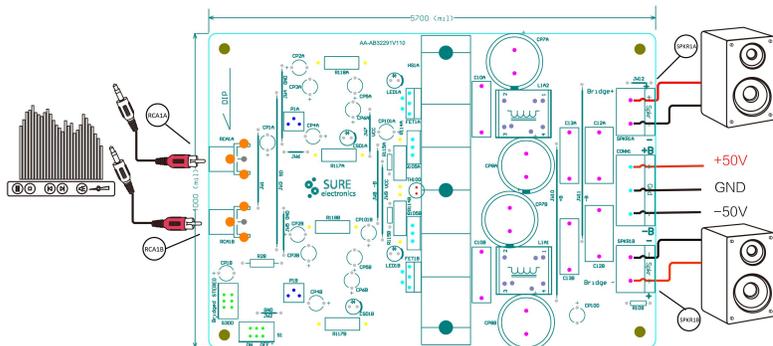
Notes:

- All dimensions are typical in inches/mm
- Tolerance x.xx = ±0.02(±0.50)

Height:

- AA-AB32321, AA-AB32291, AA-AB32511, AA-AB32431: 2.5inch/61.3mm
- Others: 1.53inch/37.5mm

Connections



Power Supply Connector:

- CONN1 Terminal Block

Pin	Function
1	+70V
2	GND
3	-70V

Audio Input Connector:

- RCA1A, RCA1B RCA Jack

Speaker Output Connector:

- SPKR1A, SPKR1B Terminal Block RJ128

Pin	Function
1	SPKR1A+
2	SPKR1A-
3	SPKR1B-
4	SPKR1B+

Notes:

- The output power is rated at the condition THD+N 10%, 1kHz sine wave.
- All amplifier boards don't employ power supply reverse polarity protection. Stresses beyond the power supply range maximum ratings may cause permanent damage.
- None typical load may cause rating power reduction.
- Dimensions mean length and width of PCB only, excluding excessive part out of the PCB outline.
- If any model within product series is out of stock, another model with compatible size and function, featuring more rating output power will be sent as the substitute without notice. For example, ^{*1} AA-AB32511's alternative model is AA-AB32431. ^{*2} AA-AB32196's alternative model is AA-AB32314.
- All parameters were tested with Rohde & Schwarz UPV audio analyzer (AES17 filter enabled) and AP AUX0025 filter. Linear Power Supply units were used for testing.
- Sure Electronics promise all standard products life cycle more than 5 years. Sure Electronics reserve the right to update the version without notice. All the products sent to retail customers are the latest version. We will provide back-to-order service (100 Pieces MOQ needed) for our distributors in 5 years.
- Suggested power supply solution:
1000VA Hand Made Toroidal Transformer (PS-RT11111)
30A 100V 16000uF Fast Recovery Rectifier Capacitor bank Board – L (AA-AB41122)
Please kindly be noticed that the board needs dual power supplies. If you have other power supply requirements, please feel free to contact us.