

High Power Mono Series

1 x 300 Watt 2 Ohm Class D Audio Amplifier Board - TAS5613 (AA-AB31191)



Key Features:

- Output Power
300W@20ohm 36V DC THD+N 10%
233W@20ohm 36V DC THD+N 1%
- Power and Shutdown Indicator
- Support Volume Control Board (VC01)
- PBTL Architecture
- Temperature Control Fan
- Overcurrent Protection
- Optimized Heatsink Design
- Overtemperature Protection
- Weight: 630g/1.39 lbs (±10%)
- Size: 6.00 x 4.50 x 1.53 inches

Electrical Specifications

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

Parameter	Conditions	Min.	Typ.	Max.	Units
Power Supply	-	25	36	38	VDC
Idle Power	SD Floating, FAN ON	-	4.7	10	W
	SD Floating, FAN OFF	-	3.2	6	W
Maximum Current	300W @ 20ohm	-	9.3	-	A
Efficiency	300W @ 20ohm	87	-	92	%
Minimum Load Impedance	-	-	1.6	-	Ω
Switching Frequency	SD Floating	-	398	-	KHz
Fan Active @ Temperature	-	-	50	-	°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	K1 ON, K2 ON	-	23	-	dB
	K1 OFF, K2 ON	-	29	-	dB
	K1 ON, K2 OFF	-	33	-	dB
	K1 OFF, K2 OFF	-	36	-	dB
Input Sensitivity(RMS)	@2Ω, 300W, 1KHz	-	850	-	mV
Input Impedance	-	-	10	-	KΩ
Output Power	@2Ω THD+N 1% @2Ω THD+N 10%	-	233 300	-	W
Bandwidth @ ±3dB	@2Ω	20	-	20K	Hz
THD	@2Ω, 1W, 1KHz	-	0.033	-	%
	@2Ω, 10W, 1KHz	-	0.14	-	%
Output Noise Level	A-weighting, Input Connected to GND	-	214	-	μV
SNR	233W @2Ω THD+N 1%	-	97	-	dB

Distributors:



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:

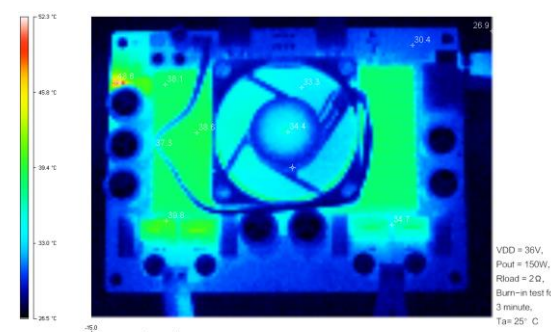
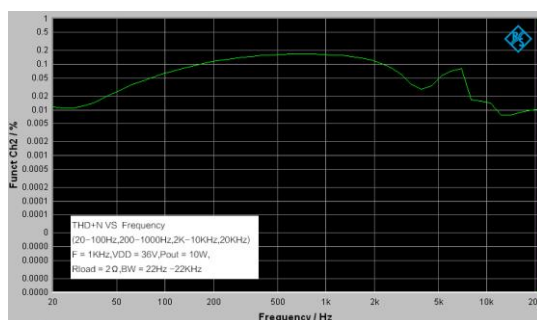
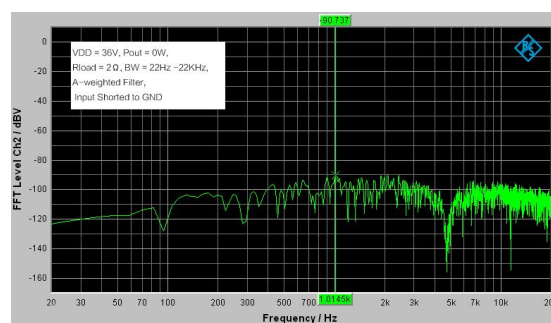
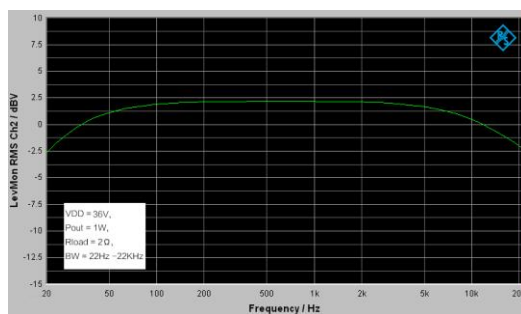


Contact info

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Typical Performance Graphs



All parameters were tested with Rohde & Schwarz UPV audio analyzer (AES17 filter enabled) and Audio Precision 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)

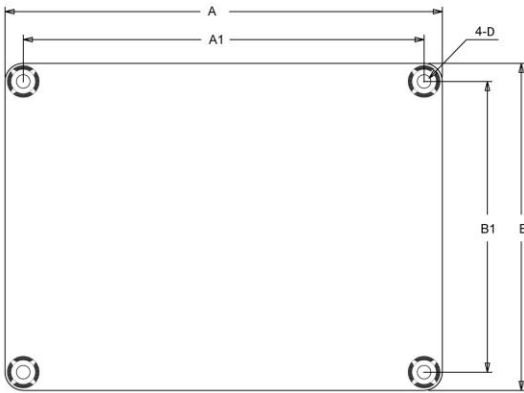
Model Selection Guide

Model Number	Output Power	Power Supply Range	Typical Load	Amplifier IC	Dimensions
AA-AB31194	1 X 300Watt	DC 15-40V	3Ω	T-AMP	4.8"X3.6" ^{#1}
AA-AB31316	1 X 400Watt	DC 24-36V	1.5Ω	T-AMP	6"X4.5"
AA-AB31513	1 X 500Watt	DC 24-40V	1.5Ω	T-AMP	6"X4.5"
AA-AB31242	1 X 600Watt	DC 24-40V	1.5Ω	T-AMP	6"X4.5"
AA-AB31321	1 X 800Watt	DC 24-46V	1.5Ω	T-AMP	6"X4.5"
AA-AB31392	1 X 1000Watt	DC25-50V	1.5Ω	T-AMP	6" X 4.5" ^{#2}
AA-AB31315	1 X 400Watt	DC 15-44V	3Ω	T-AMP	4.8"X3.6"
AA-AB31511	1 X 500Watt	DC 15-50V	3Ω	T-AMP	4.8"X3.6"
AA-AB31191	1 X 300Watt	DC 20-38V	2Ω	TAS5613	6"X4.5"
AA-AB31241	1 X 600Watt	DC 25-48V	2Ω	TAS5630B	6"X4.5"

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-AB31282's alternative model is AA-AB31194. *2 AA-AB31316's alternative model is AA-AB31513.
- 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 promises all standard products life cycle more than 5 years. Sure Electronics reserves 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:
Mean Well SE-350-36 AC/DC Single Output Switching Power Supply 36V 9.7A 350W (PS-SP11527)
300W Symmetric BOOST Converter for CAR Audio - TL494 (PS-SP12151)
If you have other power supply requirements, please feel free to contact us.

Mechanical Dimensions

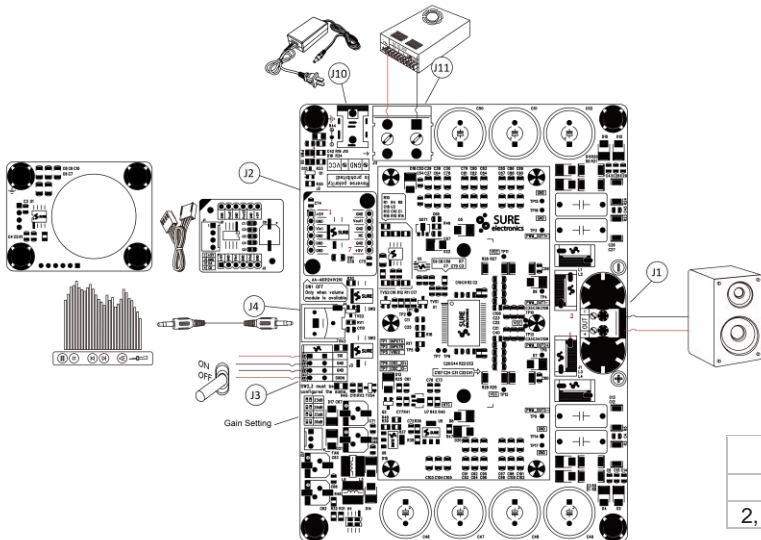


Dimensions	A (inch/mm)	A1 (inch/mm)	B (inch/mm)	B1 (inch/mm)	D (inch/mm)
#1	4.80/121.92	4.40/111.76	3.60/91.44	3.20/81.28	0.15/3.8
#2	6.00/152.40	5.60/142.24	4.50/114.3	4.10/104.14	0.15/3.8

Notes:

- All dimensions are typical in inches/mm
- Tolerance x.xx = ±0.02(±0.50)
- Height:
AA-AB31316: 0.95inch/24.1mm
AA-AB31194, AA-AB31511: 1.50inch/30.8mm
Others: 1.53inch/38.86mm

Connections



Power Supply Connector:

- J10 DC Jack 5.5mm/2.5mm
- J11 Terminal Block RJ128 (optional)

Pin	Function
■	GND
●	VCC

Speaker Output Connector:

- J1 Terminal Block RJ128

Pin	Function
1	OUT1+
2	OUT1-

Audio Input Connector:

- J4 RCA Jack

Shutdown Control Connector:

- J3 Terminal Block RJ141V

Pin	Function
■	SIG
●	GND
●	GND
●	SHDN

Volume Control Board Socket (SW1 OFF when module available)

- J2

Pin	Function	Pin	Function	Pin	Definition
1, 7	+5V	3	Vin1	9	NC
2, 4, 5, 6, 8, 10, 12	GND	11	Vout1		



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