High Power Mono Series

1 x 600 Watt 2 Ohm Class D Audio Amplifier Board - TAS5630B

(AA-AB31241)



Key Features:

- **Output Power**
  600W@2Ohm 48V DC THD+N 10%
  350W@2Ohm 48V DC THD+N 1%
- **Power and Shutdown Indicator**
- **Support Volume Control Board**
- **PBTL Architecture**
- **Temperature Control Fan(optional)**
- **Full Protection**
- **Optimized Heatsink Design**
- **4-screw Easy Installation**
- **Weight:538g/1.19 lbs (±10%)**
- **Size:6.00inchX4.50inchX1.53inch**

Distributors:

PARTS EXPRESS YOUR ELECTRONICS CONNECTION · MCM · AXIOMEDIA · HOBBYHIFILADEN · AUDIOPHONICS · Yokohama Bayside Net

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:

FC CE RoHS

Contact info

- **Email:**
  info@sure-electronics.com

WONDOM™

Electrical Specifications

Specifications typical @ +25℃, Powered by 48V DC, unless otherwise noted. Specifications subject to change without notice.

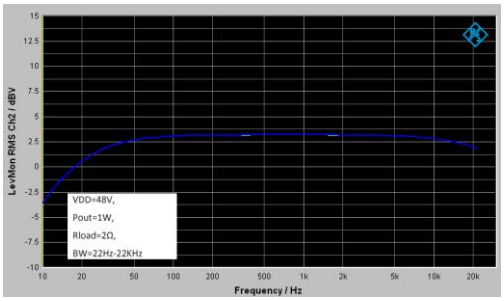
Parameter	Conditions	Min.	Typ.	Max.	Units
Power Supply	-	25	48	-	VDC
Idle Power	SD Floating, FAN ON	-	6	9	W
	SD Floating, FAN OFF	-	4.9	8	W
Standby Power	SD Connected to GND, FAN OFF	-	1	3	W
Maximum Current	600W @ 2Ohm	-	13.5	-	A
Efficiency	600W @ 2Ohm	90	-	95	%
Minimum Load Impedance	-	-	1.5	-	Ω
Switching Frequency	SD Floating	-	390	-	KHz
Fan Active @ Temperature	-	-	50	-	℃

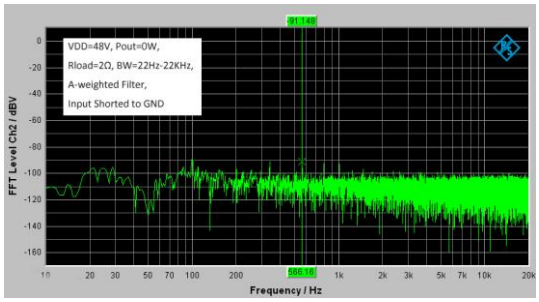
Audio Performance

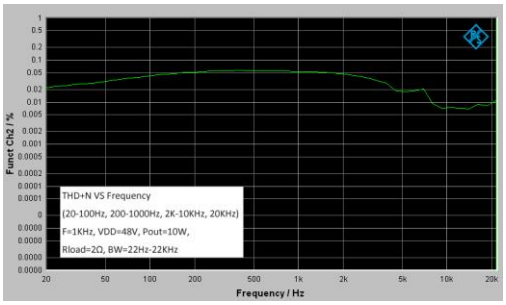
Specifications typical @ +25℃, Powered by 48V DC, unless otherwise noted. Specifications subject to change without notice.

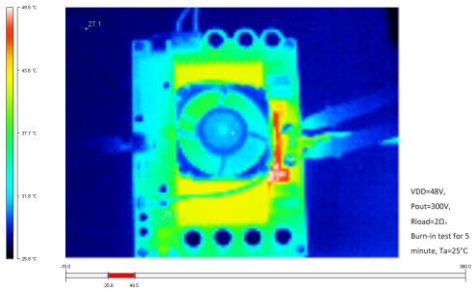
Parameter	Conditions	Min.	Typ.	Max.	Units
Gain (Adjusted by SW2 & SW3, which must be configured the same)	K1 ON ,K2 ON GAIN 23dB	-	23	-	dB
	K1 OFF ,K2 ON GAIN 29dB	-	29	-	dB
	K1 ON, K2 OFF GAIN 33dB	-	33	-	dB
	K1 OFF, K2 OFF GAIN 36dB	-	36	-	dB
Input Sensitivity(RMS)	GAIN 23dB	-	3.5	4.6	V
	GAIN 29dB	-	1.7	2.2	V
	GAIN 33dB	-	1.1	1.4	V
	GAIN 35dB	-	0.9	1.2	V
Input Impedance	-	13	-	16.7	KΩ
Output Power	@2Ω THD+N 1%	-	350	-	W
	@2Ω THD+N 10%	-	600	-	W
Bandwidth @ ±3dB	@2Ω	20	-	20K	Hz
THD	@2Ω, 10W, 1KHz	-	0.056	0.1	%
	@2Ω, 50W, 1KHz	-	0.103	0.2	%
Output Noise Level	A-weighting,Input Connected to GND	-	255	510	μV
SNR	350W @2Ω THD+N 1%	-	94	96	dB

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:

1. The output power is rated at the condition THD+N 10%,1kHz sine wave.

2. All amplifier boards don't employ power supply reverse polarity protection. Stresses beyond the power supply range maximum ratings may cause permanent damage.

3. None typical load may cause rating power reduction.

4. Dimensions mean length and width of PCB only, excluding excessive part out of the PCB outline.

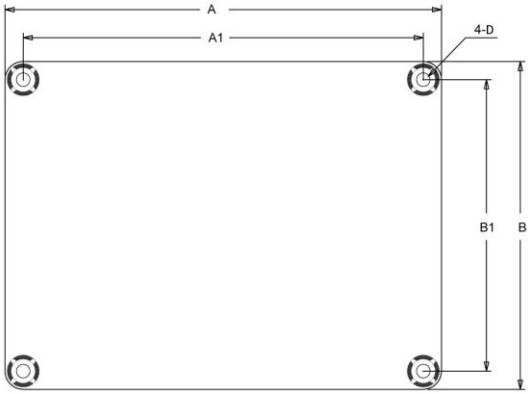
5. If any model within product series is out of stock, another model with compatible size and function, featuring more rating output power will be sent as the substitute without notice. For example,
*1 AA-AB31282's alternative model is AA-AB31194.
*2 AA-AB31316's alternative model is AA-AB31513.

6. 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.

7. 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.

8. Suggested power supply solution:
Mean Well MW 48V 12.5A 600W AC/DC Switching Power Supply SE-600-48 UL/CUL (PS-SP11142)
500W BOOST Converter for CAR Audio - TL494 (PS-SP12148)
If you have other power supply requirements, please feel free to contact us.

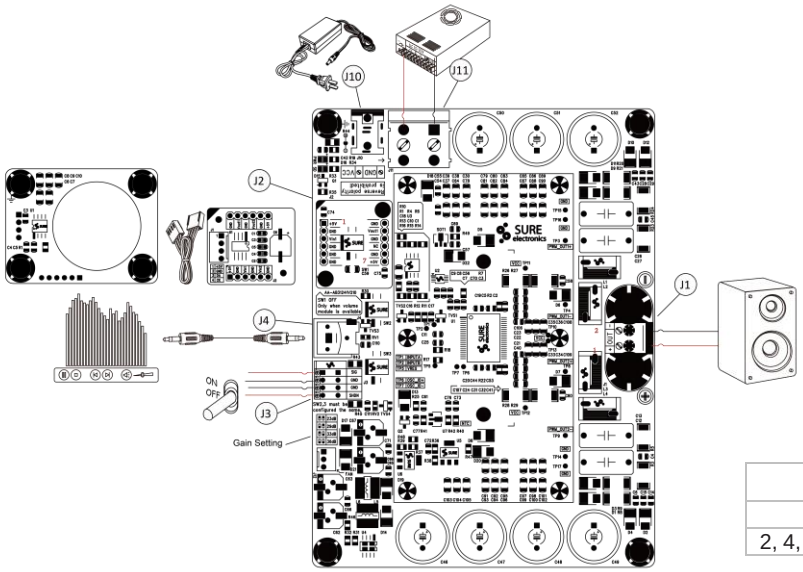
Mechanical Dimensions



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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