

# Mid-Power Mono Series

## 1 x 100 Watt 2 Ohm Class D Audio Amplifier Board - TPA3116 (AA-AB31184)



### Key Features:

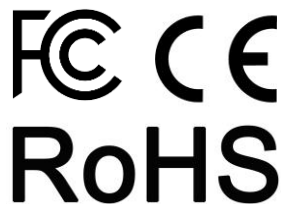
- Output Power  
100W @ 2Ω 21V DC THD+N 10%  
87W @ 2Ω 21V DC THD+N 1%
- Power Indicator
- Temperature Control Fan (Optional)
- Overcurrent Protection
- Overtemperature Protection
- Reverse Polarity Protection
- Optimized Heatsink Design
- 4-screw Easy Installation
- Weight: 225g/ 0.50 lbs (±10%)
- Size: 3.60 x 2.70 x 0.93 inches

### 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

• Email:  
info@sure-electronics.com



### Electrical Specifications

Specifications typical @ +25°C, powered by 21V DC, unless otherwise noted. Specifications subject to change without notice.

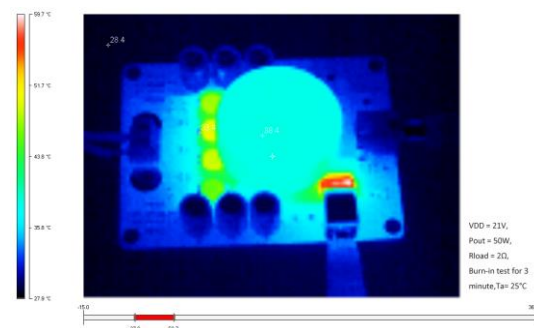
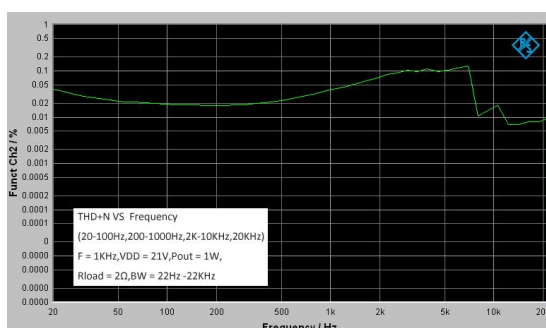
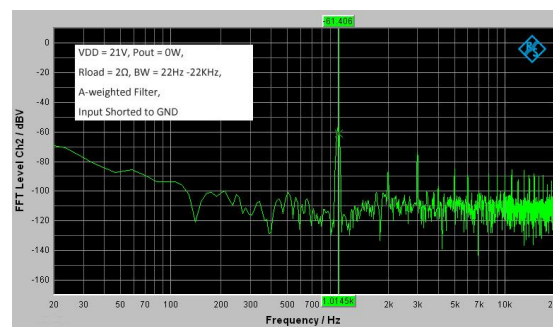
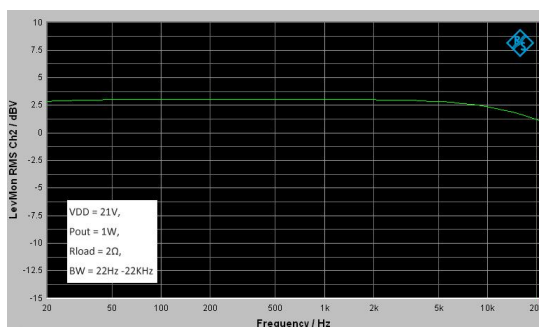
Parameter	Conditions	Min.	Typ.	Max.	Units
Power Supply	-	10	21	24	VDC
Idle Power	SD Floating	-	1.1	-	W
Standby Power	SD Connected to GND	-	0.07	-	W
Maximum Current	100W @ 2Ω	-	5.3	-	A
Efficiency	100W @ 2Ω	-	89	-	%
Minimum Load Impedance	-	-	1.6	-	Ω
Switching Frequency	SD Floating	-	398	-	KHz

### Audio Performance

Specifications typical @ +25°C, powered by 21V DC, unless otherwise noted. Specifications subject to change without notice.

Parameter	Conditions	Min.	Typ.	Max.	Units
Gain	-	-	26	-	dB
Input Sensitivity(RMS)	@ 2Ω, 100W, 1KHz	-	0.83	-	V
Input Impedance	-	-	30	-	KΩ
Output Power	@ 2Ω THD+N 1% @ 2Ω THD+N 10%	-	87	-	W
Bandwidth @ ±3dB	@ 2Ω	20	-	20K	Hz
THD	@ 2Ω, 1W, 1KHz @ 2Ω, 10W, 1KHz	-	0.05	-	%
Output Noise Level	A-weighting, Input Connected to GND	-	109	-	μV
SNR	87W @ 2Ω THD+N 1%	-	99	-	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-AB31471	1 X 30Watt	DC10-19V	4Ω	TPA3110	3"X2" #1
AA-AB31521	1 X 40Watt	DC10-24V	4Ω	TPA3110	3.6"X2.7" #2
AA-AB31211	1 X 60Watt	DC10-26V	4Ω	TPA3118	3.6"X2.7"
AA-AB31184	1 X 100Watt	DC 10-24V	2Ω	TPA3116	3.6"X2.7"
AA-AB31282	1 X 200Watt	DC 15-36V	3Ω	T-AMP	4.8"X3.6" #3

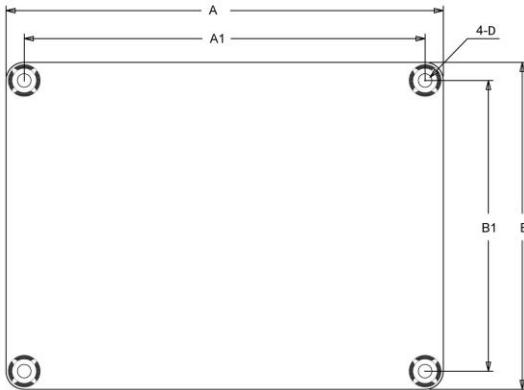
7. Sure Electronics promises all standard products life cycle more than 5 years. Sure Electronics reserves the right to update the version without notice. All the products sent to retail customers are the latest version. We will provide back-to-order service (100 Pieces MOQ needed) for our distributors in 5 years.

8. Suggested power supply solution:  
 Mean Well MW 36V 9.7A 350W AC/DC Switching Power Supply NES-350-36 UL (PS-SP11156)  
 300W BOOST Converter for CAR Audio - TL494 (LE-LL41211)  
 If you have other power supply requirements, please feel free to contact us.

### 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.

## Mechanical Dimensions

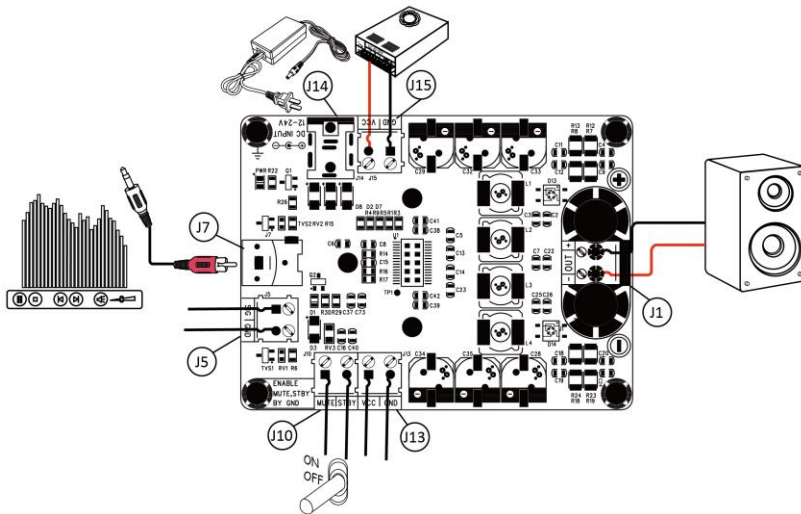


Dimensions	A (inch/mm)	A1 (inch/mm)	B (inch/mm)	B1 (inch/mm)	D (inch/mm)
#1	3.0/76.2	2.7/68.58	2.0/50.8	1.7/43.18	0.12/3.1
#2	3.6/91.44	3.3/83.82	2.7/68.58	2.4/60.96	0.14/3.6
#3	4.80/121.92	4.40/111.76	3.60/91.44	3.20/81.28	0.15/3.8

### Notes:

- All dimensions are typical in inches/mm
- Tolerance x.xx = ±0.02(±0.50)
- Height:  
 AA-AB31184: 0.93inch/23.6mm  
 AA-AB31282: 1.12inch/28.45mm  
 Others: 0.65inch/16.51mm

## Connections



### Power Supply Connector:

- J14 DC Jack 5.5mm/2.5mm
- J15, J13 Terminal Block RJ128 (optional)

	Pin	Function
J15	■	GND
	●	VCC
J13	■	VCC
	●	GND

### Audio Input Connector:

- J7 RCA Jack
- J5 Terminal Block RJ128 (optional)

Pin	Function
■	SIG
●	GND

### Speaker Output Connector:

- J1 Terminal Block RJ128

Pin	Function
1	OUT+
2	OUT-

### Mute/ Standby Control Connector:

- J10 Terminal Block RJ128

Pin	Function
■	MUTE
●	STBY



# Sure Electronics

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 Nanjing, Jiangsu Province, P.R.C

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