

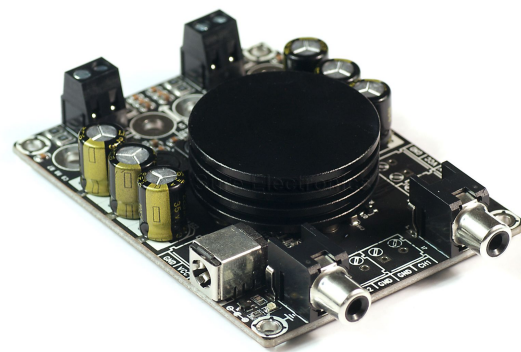
Low Power Stereo Series

2 x 50 Watt 4 Ohm

Class D

Audio Amplifier Board - TPA3116

(AA-AB32178)



Key Features:

- Output Power
50W@4Ohm 21V DC THD+N 10%
36W@4Ohm 21V DC THD+N 1%
- Power and Clip Indicator
- Temperature Control Fan (Optional)
- Full Protection
- 4-screw Easy Installation
- Weight: 144g/0.32 lbs (±10%)
- Size: 3.60inchX2.70inchX0.94inch

Distributors:



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	-	1.3	2.5	W
Standby Power	SD Connected to GND	-	0.1	0.3	W
Maximum Current	100W @ 4Ohm	-	5.29	-	A
Efficiency	50W @ 4Ohm	87	-	92	%
Minimum Load Impedance	-	3.2	-	-	Ω
Switching Frequency	SD Floating	-	394	-	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	-	24	25	26	dB
Input Sensitivity(RMS)	@4Ω, 50W, 1KHz	-	808	-	mV
Input Impedance	-	-	22	-	KΩ
Output Power	@4Ω THD+N 1% @4Ω THD+N 10%	-	36 50	-	W
Bandwidth @ ±3dB	@4Ω	20	-	20K	Hz
THD	@4Ω, 1W, 1KHz @4Ω, 10W, 1KHz	-	0.0299 0.073	-	%
Output Noise Level	A-weighting, Input Connected to GND	-	82.8	-	μV
SNR	36W @4Ω THD+N 1%	-	100	-	dB

Typical Performance Graphs

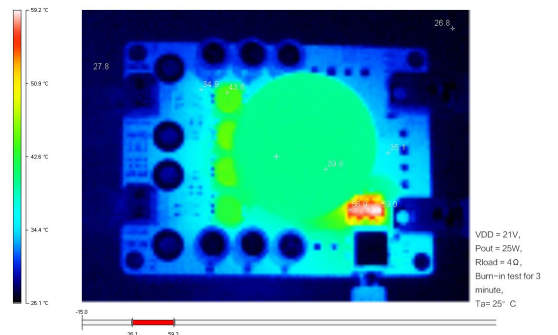
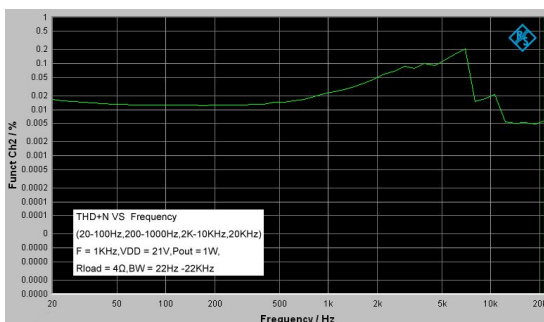
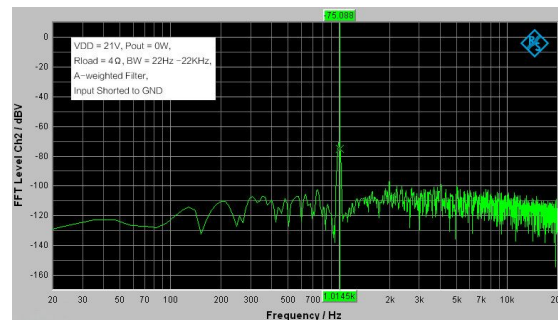
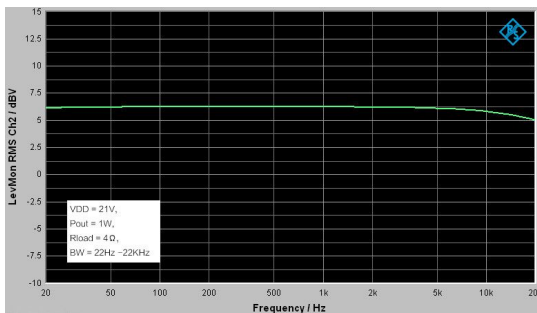
All these boards are pre-tested with our power supply solution to comply with FCC and CE. For all customers who need those information, please contact our distributor or Sure Electronics. RoHS compliant will need an MOQ of 1000 pieces per order.

Ready for:

FCC CE
RoHS

Contact info

Email:
info@sure-electronics.com



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)

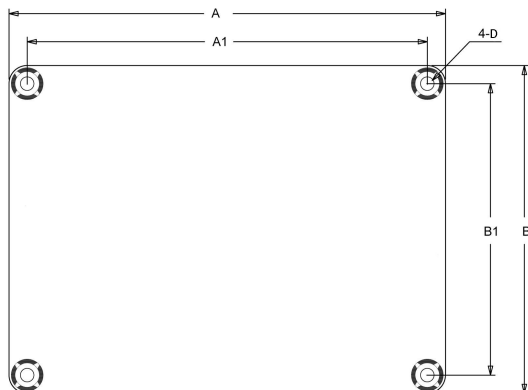
Model Selection Guide

Model Number	Output Power	Power Supply Range	Typical Load	Amplifier IC	Dimension
AA-AB32131	2 X 2Watt	DC6-12V	4Ω	PAM8803	3"X2" #1
AA-AB32232	2 X 10Watt	DC10-15V	8Ω	PAM8610	3"X2"
AA-AB32999	2 X 15Watt	DC10-24V	4Ω	PAM8615	3"X2"
AA-AB32231	2 X 8Watt	DC10-19V	8Ω	TPA3110	3"X2"
AA-AB32233	2 X 10Watt	DC10-15V	4Ω	SSM3302	3.6"X2.7" #2
AA-AB32992	2 x 15Watt	DC10-24V	4Ω	MAX9736A	3.6"X2.7"
AA-AB32993	2 X 15Watt	DC10-24V	4Ω	MP7740	3.6"X2.7"
AA-AB32996	2 X 15Watt	DC10-24V	8Ω	TPA3110	3.6"X2.7"
AA-AB32155	2 X 15Watt	DC10-14V	4Ω	TA2024	3.6"X2.7"
AA-AB32254	2 X 20Watt	DC10-24V	8Ω	MAX98400A	3.6"X2.7"
AA-AB32166	2 X 25Watt	DC10-24V	6Ω	TDA7492P	3.6"X2.7"
AA-AB32165	2 X 25Watt ¹	DC14-19V	6Ω	TDA7492	4.8"X3.6" #3
AA-AB32174	2 X 50Watt ¹	DC10-24V	6Ω	TDA7492	4.8"X3.6"
AA-AB32179	2 X 50Watt	DC10-24V	6Ω	TDA7492	3.6"X2.7"
AA-AB32167	2 X 25Watt	DC10-27V	4Ω	TPA3123	3.6"X2.7"
AA-AB32472	2 X 30Watt	DC10-24V	8Ω	TPA3118	3.6"X2.7"
AA-AB32178	2 X 50Watt	DC10-24V	4Ω	TPA3116	3.6"X2.7"

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.
- 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:
Mean Well RS-100-24 AC/DC Single Output Switching Power Supply 24V 4.5A 100W (PS-SP11546)
If you have other power supply requirements, please feel free to contact us.

Mechanical Dimensions

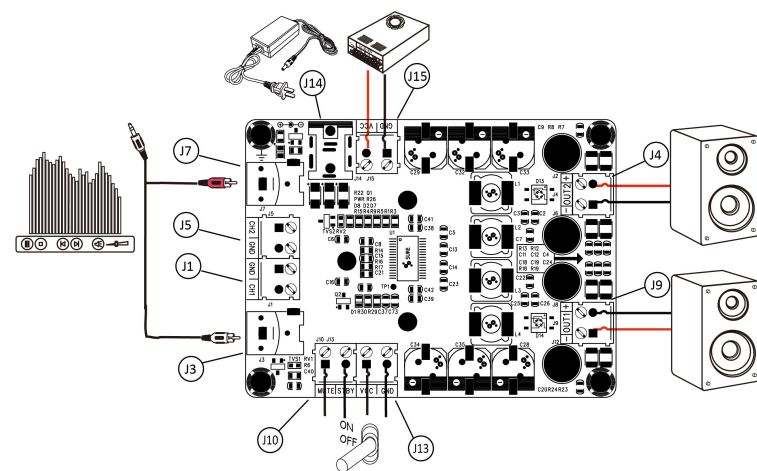


Dimension	A (inch/mm)	A1 (inch/mm)	B (inch/mm)	B1 (inch/mm)	R (inch/mm)
#1	3.00/76.20	2.70/68.58	2.00/50.80	1.70/43.18	0.14/3.56
#2	3.95/100.33	3.30/83.82	2.70/68.58	2.40/60.96	0.14/3.56
#3	5.15/130.81	4.40/111.76	3.60/91.44	3.20/81.28	0.15/3.81

Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.02 (±0.50)
- Height:
 - 1) AA-AB32178, AA-AB32179: 0.94inch/23.9mm
 - 2) AA-AB32174: 1.53inch/37.5mm
 - 3) AA-AB32165: 0.95inch/24.2mm
- Other models: 0.65inch/16.5mm

Connections



Power Supply Connector:

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

Pin	Function
1	GND
2	VCC

Mute/Standby Control Connector:

- J10, J13 Terminal Block RJ128 (optional)

Pin	Function
1	MUTE
2	STBY
3	VCC
4	GND

Audio Input Connector:

- J7, J3 RCA Jack
- J1, J5 Terminal Block RJ128 (optional)

Pin	Function
1	CH2
2,3	GND
4	CH1

Speaker Output Connector:

- J4, J9 Terminal Block RJ128

Pin	Function
1	OUT1-
2	OUT1+
3	OUT2-
4	OUT2+