

# Brick Series

## 1 x 800 Watt 2 Ohm Class D Audio Amplifier Brick DBKL1 - T-AMP (AA-BK31442)



### Key Features:

- Output Power  
800W@20Ohm 52V DC THD+N 10%  
600W@20Ohm 52V DC THD+N 1%
- Power and Clip Indicator
- Reverse Polarity Protection
- Signal Level Sensor System
- Flexible Connection and High Power Density
- Differential and Single-ended Optional
- High Level and Low Level Gain Adjustable
- Temperature Control Fan
- Full Protection
- Optimized Heatsink Design
- Weight: 640g/1.41 lbs (±10%)
- 3.90inch x 3.90inch PCB size

### Electrical Performance

Specifications typical @ +25°C, powered by 52V DC, unless otherwise noted. Specifications subject to change without notice.

Parameter	Conditions	Min.	Typ.	Max.	Units	
Number of Channels	-	-	1	-	-	
Minimum Load Impedance	-	-	2	-	Ω	
Efficiency	800W @20Ohm, 52V, 1kHz	-	90	-	%	
Nominal Power Requirement	-	-	1200	-	W	
Operating Voltage	-	36	52	60	V	
Idle Power	Signal detected (Load 4 Ohm)	Fan on	-	15	-	W
		Fan off	-	14	-	W
	No Signal detected		-	1.2	-	W
Standby Power	SD Connected to GND, Fan OFF	-	1	-	W	
Switching Frequency	SD Floating@52V	-	700	-	kHz	
Power Consumption	1/4 of max output power@40Ohm, 52V	-	250	-	W	
	1/8 of max output power@40Ohm, 52V	-	150	-		
Control Standby	Pull down to GND current *	-	100	-	μA	

Note: \* When SD is floating, the pull up voltage is 10.1 V with the amplifier working.

### Audio Performance

Specifications typical @ +25°C, powered by 52V DC, unless otherwise noted. Specifications subject to change without notice.

Parameter	Conditions	Min.	Typ.	Max.	Units	
Input Sensitivity	800W @20Ohm, 52V, 1kHz	SE	Gain H	-	0.8	Vrms
			Gain L	-	1.2	
	DIFF	Gain H	-	0.7		
		Gain L	-	1.1		
SNR	200W @40Ohm A-weighting	SE	Gain H	-	95	dB
			Gain L	-	96	
	DIFF	Gain H	-	94		
		Gain L	-	95		
THD+N	10W@40Ohm, 1kHz	SE	Gain H	-	0.02	%
			Gain L	-	0.03	
	DIFF	Gain H	-	0.08		
		Gain L	-	0.08		
Input Impedance	SE	SE	Gain H	-	15	kΩ
			Gain L	-	15	
	DIFF	Gain H	-	15		
		Gain L	-	15		
Output Noise Level	A-weighting Input Connected to GND	SE	-	400	uV	
		DIFF	-	350		
DC Offset	@40Ohm, 52V	-	50	-	mV	
Bandwidth	@40Ohm, 52V	20	-	20k	Hz	
Gain	@40Ohm, 1_kHz	Gain (H)	-	37	dB	
		Gain (L)	-	33		
	Output monitor	Gain=250W @20Ohm, 52V, 1kHz	-	-39		-

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)



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:

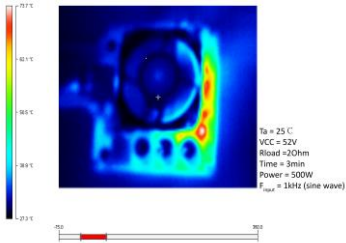
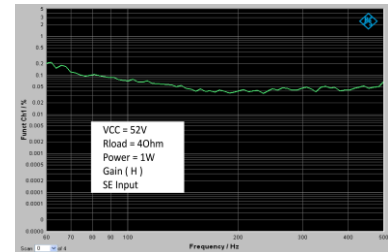
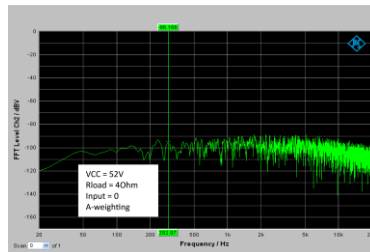
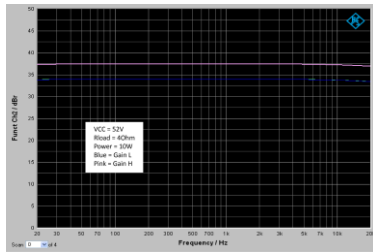


### Contact info

• Email:  
info@surrelectronics.com



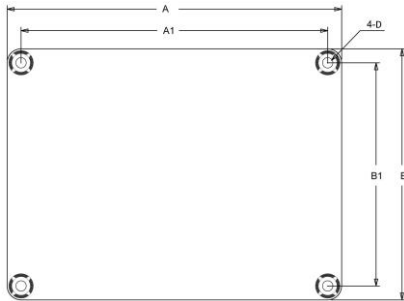
# Typical Performance Graphs



Test	Temperature		Duration/ Operation
Burn In Test	25°C	25°C	48hours
Low Temperature, Operating	0°C	0°C	Checking startup performance
High Temperature, Operating	55°C	55°C	2hours
Change of Temperature, Operating	0°C	50°C	On customers' requirement

The tests above are carried out under regular conditions. Please contact us directly if you require test reports under extreme conditions, especially for industrial and military purpose.

## Mechanical Dimensions

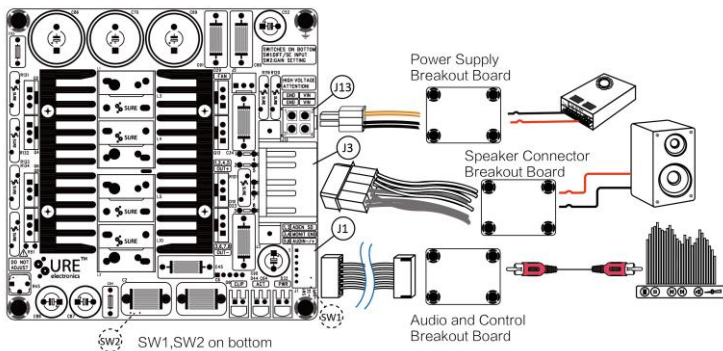


Dimensions	A (inch/mm)	A1 (inch/mm)	B (inch/mm)	B1 (inch/mm)	D (inch/mm)
#1	3.90/99.06	3.50/88.9	3.90/90.06	3.50/88.9	0.14/3.60

### Notes:

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

## Connections



### Audio Input Connector:

- J1 JST Connector

Pin	Function
1	ADEN
2	SD
3	MONT
4	GND
5	AUDIN-
6	AUDIN+

### Speaker Output Connector:

- J3 TE Connector

Pin	Function
1,2,4,5	OUT-
3,6,7,8	OUT+

### Audio Input Mode Switch:

- SW1 Slide Switch

Setting	Function
UP	Single-ended
DOWN	Differential

### Gain Control Switch:

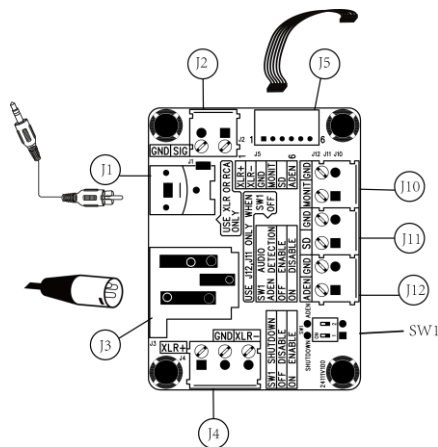
- SW2 Slide Switch

Setting	Function
Left	High
Right	Low

### Power Supply Connector:

- J13 Fastfit JR Header

Pin	Function
1,3	GND
2,4	VIN



### Audio Input Connector:

(Use XLR or RCA Only)

J1, RCA

J2, Line-in

Pin	Definition
■	SIG
●	GND

J3, J4, XLR

Pin	Definition
■	XLR+
●	GND
●	XLR-

### Control Connector:

J11

Pin	Definition
■	SD
●	GND

### Audio Output Connector:

J5, 6 pin cable

Pin	Definition
■	XLR+
●	XLR-
●	GND
●	MONIT
●	SD
●	ADEN

### Signal Detection Connector:

J10

Pin	Definition
■	MONIT
●	GND

J12

Pin	Definition
■	ADEN
●	GND

### Switch:

SW1, Use J11, J12 Only When SW1 OFF

Pin	Definition	State	Function
1	SHUTDOWN	ON	ENABLE
		OFF	DISABLE
2	AUDIO ADEN DETECTION	ON	DISABLE
		OFF	ENABLE