

Simple Media Networks, Inc

Preliminary

<p>Features:</p> <ul style="list-style-type: none">• 2x100W amplification into 4 ohm• Load impedance down to 1 ohm• Efficient class-D operation• Operation from 6-36VDC input• Designed for low EMI• Standalone or I2C Controlled• Simple Packaging for excellent cooling• Speaker diagnostics• Short circuit protection• Integrated temperature sensor output for thermal monitoring• Internal thermal limiting• Overcurrent protection• DC offset protection• High reliability• Shortens development cycle• Standard Power Brick Format	
<p>Applications:</p> <p>Automotive audio amplifier Aircraft sound system amplifier Audio Kiosk PA Systems Professional Audio Equipment Home Entertainment Video Game Systems</p>	

1 Description

The Simple Media Networks AudioBrick provides 2 channels of audio amplification in a compact module. Multiple modules can be combined to provide any number of channels in a system. The AudioBrick allows system developers to design state of the art audio amplifier into their products with minimal development time and effort. All critical analog design aspects are integrated into the module, enabling a very fast time to market. The module can be operated as a standalone module, or configured and controlled from a microcontroller over I2C for more complex system requirements.

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2 Packaging and pinout

Pinouts

Pin #	Name	Type	Description
1	GND	Ground	Ground
2	VIN	Power	Input Supply Voltage
3	\SHDN	DI,oc	Power amplifier shutdown, input, Active Low
4	RSET	AI	Mode configuration pin
5	SCL	DI	I2C serial clock
6	SDA	DI/O	I2C serial data
7	IN2-	AI	Input 2 Negative
8	IN2+	AI	Input 2 Positive
9	IN1-	AI	Input 1 Negative
10	IN1+	AI	Input 1 Positive
11	OSC	DIO	Oscillator synchronization I/O
12	AMP_EN		
13	\DIAG	DO, oc	Diagnostic output, active low
14	\CLIP	DO, oc	Clip detection output, active low
15	TEMP	AO	Analog output of temperature sensor
16	SPKR1-	AO	Speaker output 1 Negative
17	SPKR1+	AO	Speaker output 1 Positive
18	SPKR2+	AO	Speaker output 2 Positive
19	SPKR2-	AO	Speaker output 2 Negative

3 Electrical Specifications

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Absolute Max Voltage	Vp				36	V
Operating Supply Voltage	Vp		6	14.4	32	V
Standby Current	I _{sb}	\SHDN = 0V		60		uA
Quiescent Current	I _q	\SHDN = open, Vin1=Vin2=0V		150		mA
Output Power per channel	P _o	8 ohm Load, 10%THD		100		Wrms
	P _o	4 ohm Load, 10%THD		100		Wrms
	P _o	2 ohm Load, 10%THD		80		Wrms
	P _o	1 ohm Load, 10%THD		40		Wrms
Output Power per channel	P _o	8 ohm Load, 0.5%THD		100		Wrms
	P _o	4 ohm Load, 0.5%THD		100		Wrms
	P _o	2 ohm Load,		80		Wrms

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		0.5%THD				
	Po	1 ohm Load, 0.5%THD		32		Wrms
Efficiency	Eff	Vp = 14.5VDC		80		%
Efficiency	Eff	Vp = 28VDC		78		%
Operating Temperature	Tamb		-40		105	°C

4 Mechanical

Standard 4.6"x2.4" Power Brick form factor.

5 I2C Interface

Contact us for details

6 Applications

7 Ordering

Master Module

Slave Module