PAM8101/8201
Tiny 1.2 Watt Class-D Audio Amplifiers

Description

The PAM8101 is a 1.2 Watt, 5-pin, single channel, class D audio amplifier. The PAM8201 is a 1.2 Watt per channel, 8-pin, dual channel, class D audio amplifier. The PAM8101 and PAM8201 require very few external components, which leads to lower total system costs as well as less board space.

These amplifiers supply 1.2 Watts per channel into a 8Ω speaker at much higher efficiencies than their class A/B cousins. They also offer low THD+N (0.10%), allowing them to produce high-quality sound reproduction.

The PAM8101 is available in a SOT25 package, which is a tiny 2mm by 3mm. This small package, combined with the low external component count (as few as two tiny capacitors), results in significant board space savings.

The PAM8201 is available in a small 8-pin SOP package, and requires as few as three tiny capacitors for a complete class-D solution. As with the PAM8101, this small package, combined with the low external component count, results in significant board space savings.

The PAM8101 and PAM8201 both run off of a 5 Volt supply, making them ideal for many portable applications.

Features

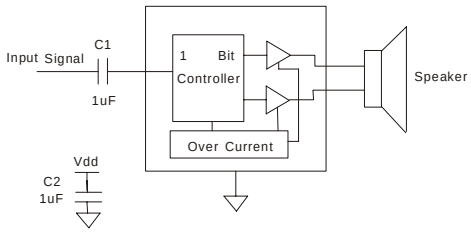
- **1.2 Watts @ 10% THD per channel output into a 8Ω load at 5V**
- **Support speakers or earphone (6Ω to 32Ω).**
- **Superior low noise without signal input.**
- **Supply voltage: From 2.5V to 6 V.**
- **85% efficiency above.**
- **Short Circuit Protection.**
- **Tiny package outlines: SOT25 (PAM8101) and SOP-8 (PAM8201)**
- **Less output capacitor and inductor to save the space and cost.**
- **Low THD+N**
- **Low Quiescent current: Below 10mA**

Applications

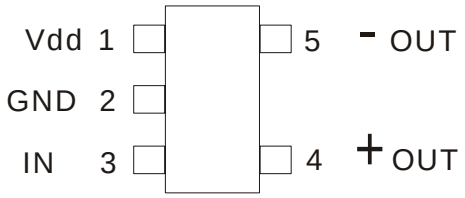
- Notebook computers
- PDAs
- Portable DVD players
- Cellular phones/speaker phones.
- MP3 or PMP players.
- Portable speakers.
- USB speaker.
- LCD monitor / TV.

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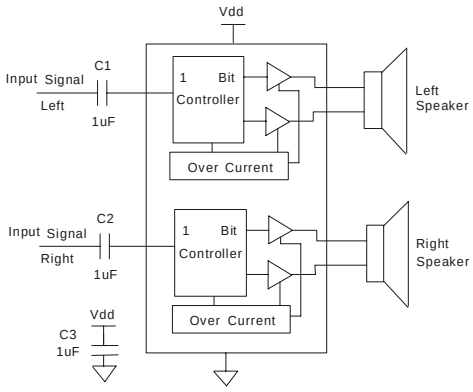
PAM8101 Block Diagram



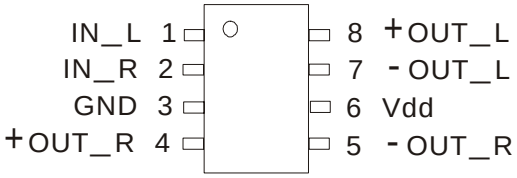
PAM8101 Pin Assignment



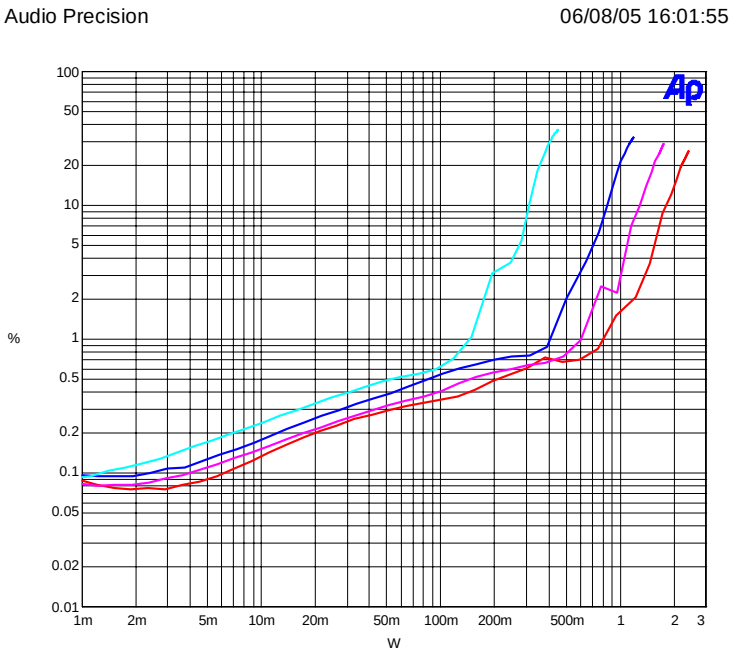
PAM8201 Block Diagram



PAM8201 Pin Assignment



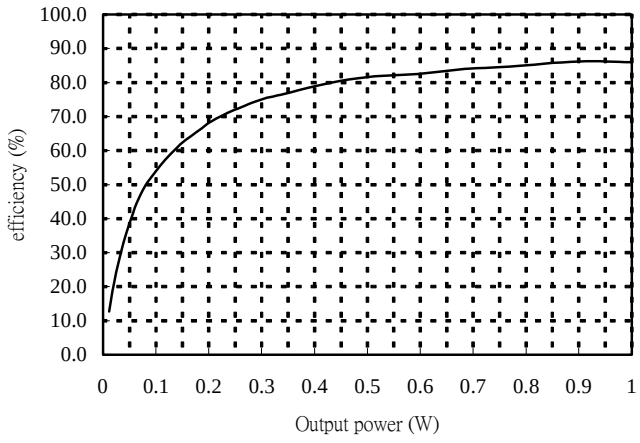
THD+N vs. Output Power
(8 Ohms, 1 kHz, Vdd=2.5V to 6V)



With an 8-ohm load:

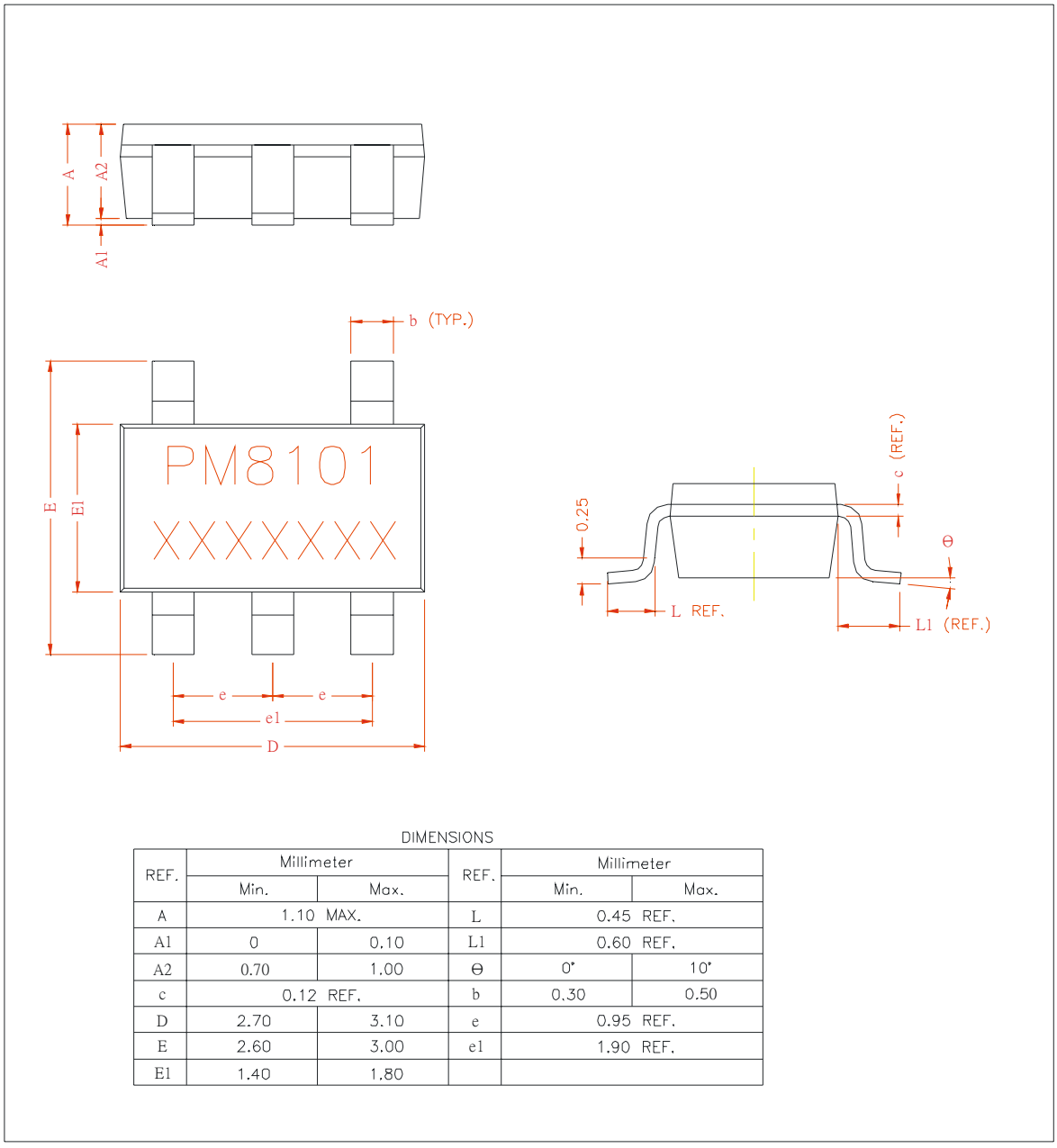
Vdd:	2.5V	4.0V	5.0V	6.0V
Output Watt:	0.3W	0.8W	1.2W	1.7W

Efficiency vs. Output power
(8 Ohms, 1kHz, Vdd = 5V)



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Package Description PAM8101

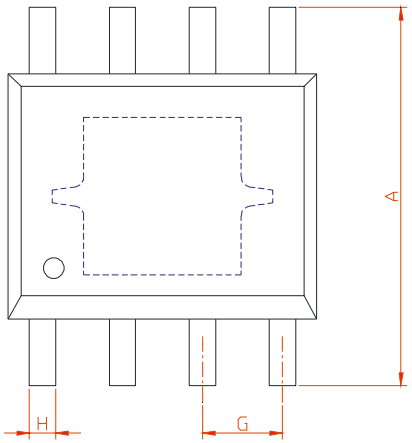


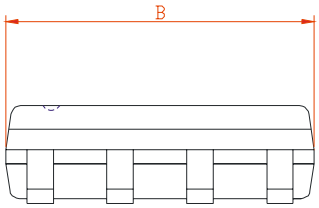
DIMENSIONS

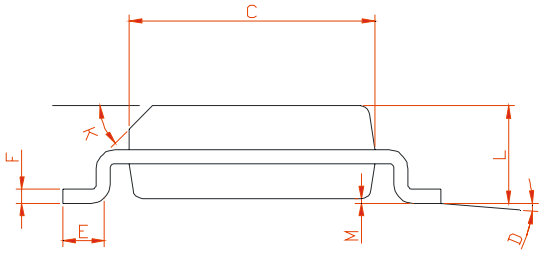
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.10 MAX.		L	0.45 REF.	
A1	0	0.10	L1	0.60 REF.	
A2	0.70	1.00	θ	0°	10°
c	0.12 REF.		b	0.30	0.50
D	2.70	3.10	e	0.95 REF.	
E	2.60	3.00	e1	1.90 REF.	
E1	1.40	1.80			

Note: Package outline exclusive of mold flash and metal burr.

Package Description PAM8201







REF.	DIMENSIONS Millimeters	
	Min.	Max.
A	5.80	6.20
B	4.80	5.00
C	3.80	4.00
D	0°	8°
E	0.40	0.90
F	0.19	0.25
G	1.27 TYP.	
H	0.35	0.49
J	0.375 REF.	
K	45°	
L	1.35	1.75
M	0	0.15

Note: Package outline exclusive of mold flash and metal burr.