3.1W单声道、超低EMI、无滤波器D类音频功率放大器

PRELIMINARY DATASHEET

器件描述

FH8126是一款输出3.10W的单声道D类音频功率放大器。其输出无需LC滤波也可正常工作。FH8126创新的AERC技术在全带宽范围内抑制了EMI干扰，最大限度地减少对其他部件的影响。

FH8126内置短路保护、过流保护、过热保护检测模块，能够有效地保护芯片在异常工作状况下不被损坏。其Class-D类的工作模式具有高达90%的效率，能够延长电池使用时间，适合于便携式音频产品。

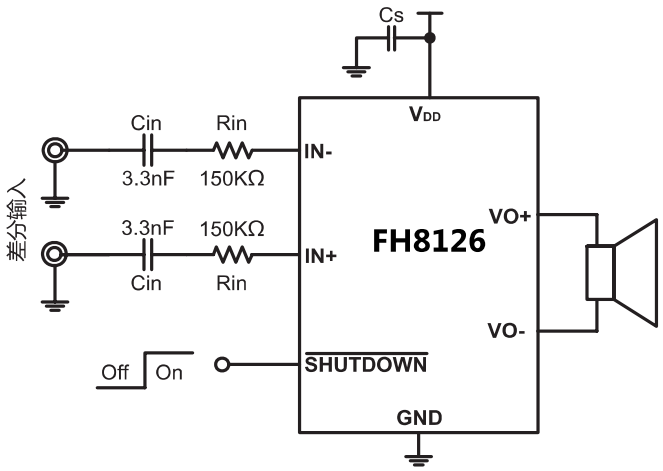
FH8126内部的PWM调制结构及增益内置方式可以使其在无输出滤波器的情况下正常工作，减少了外部元件、PCB面积和系统成本。

FH8126提供标准的DFN2*2-8L封装，方便用户更紧凑的进行PCB布局。

应用领域

- 蓝牙音箱
- 行车记录仪
- 智能穿戴
- 平板电脑等手持设备

典型应用



图一、FH8126D8 差分输入方式应用电路图

电气特性

- 工作电压范围：2.5V ~ 5.5V
- 输出功率：

  PO @ 10% THD+N, V_{DD}=5.0V

  RL= 8Ω 1.8W (Typ.)

  RL = 4Ω 3.1W (Typ.)

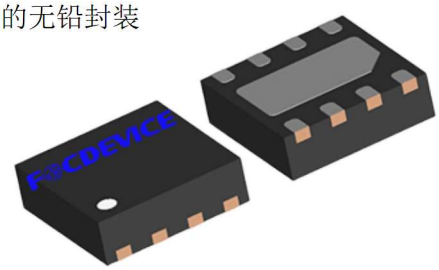
  PO @ 1% THD+N, V_{DD}=3.6V

  RL = 8Ω 0.70W (Typ.)

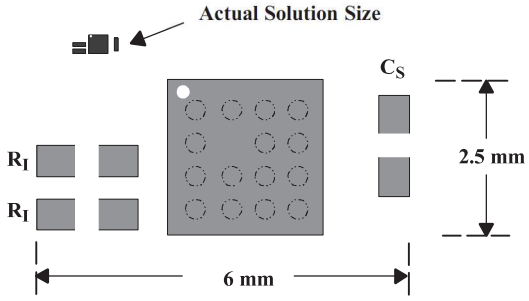
  RL = 4Ω 1.25W (Typ.)
- 高达90%的效率
- 无需滤波器Class-D结构
- 创新的AERC技术，提供优异的全带宽EMI抑制能力
- 优异的"上电/掉电"(pop-noise)噪声抑制能力
- 低静态电流：3.0mA@3.6V/No load
- 低关断电流(小于0.1uA)
- 快速的启动时间：70ms
- 高的电源抑制比(PSRR)：-80dB(217Hz)
- 内置短路保护、过流保护、过热保护
- 提供标准封装形式：DFN2*2-8L
- 符合RoHs标准的无铅封装

封装结构

- DFN2*2-8L

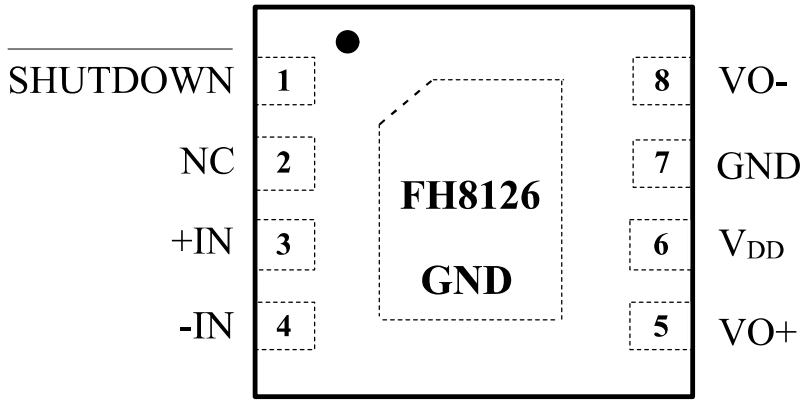


FH8126 Device Layout and Size



引脚分布

(TOP VIEW)



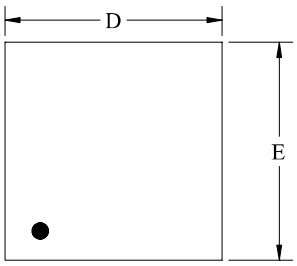
DFN2*2-8L

引脚功能

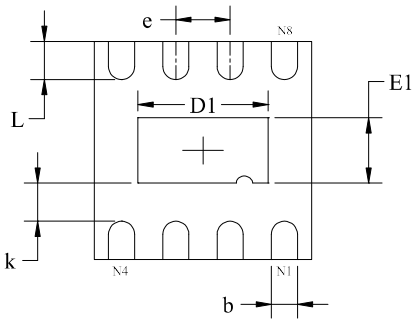
PIN	DFN-8	I/O	DESCRIPTION
$\overline{\text{SHUTDOWN}}$	1	I	Shutdown terminal (active low logic)丨H: D类工作模式，L: 关断模式
NC	2		No internal connection丨无连接引脚
IN+	3	I	Positive differential input丨正相音频输入
IN-	4	I	Negative differential input丨反相音频输入
V_{O+}	5	O	Positive BTL output丨正相音频输出
V_{DD}	6	I	Power supply丨供电电源
GND	7	I	Ground丨接地引脚
V_{O-}	8	O	Negative BTL output丨反相音频输出

PACKAGE OUTLINE DIMENSIONS

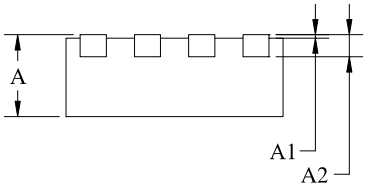
DFN2*2-8L



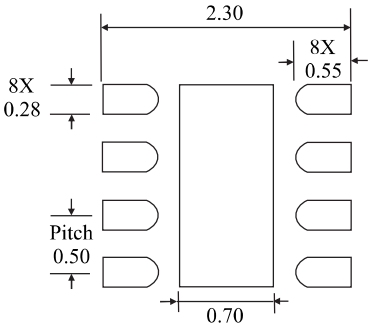
TOP VIEW



BOTTOM VIEW



SIDE VIEW



RECOMMENDED LAND PATTERN(Unit: mm)

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A2	0.203 REF		0.008 REF	
D	1.900	2.100	0.075	0.083
D1	1.100	1.300	0.043	0.051
E	1.900	2.100	0.075	0.083
E1	0.500	0.700	0.020	0.028
k	0.200 MIN		0.008 MIN	
b	0.180	0.300	0.007	0.012
e	0.500 TYP		0.020 TYP	
L	0.250	0.450	0.010	0.018

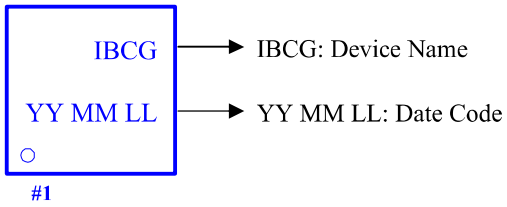
ORDERING INFORMATION

Part Number	Voltage Range	Features	Operating Temperature	Package Type	Top Mark	SPQ
FH8126D8	2.5V ~ 5.5V	● Audio Amplifier Class-D ● Power Output: 3.1W ● Efficiency: 90% ● Iq: 3.0mA (Typ.) ● PSRR: -80dB(217Hz) ● Protection: SCT/OCP/OTP	-40°C to 85°C	DFN2*2-8L	IBCG YY MM LL	3000PCS/Reel

Note:

- **FH8126** devices are Pb-free and RoHs compliant.
- The surface prints of our semiconductor devices are subject to change during the production process and do not involve changes in electrical parameters, and we will not separately state the notice.
- If you have any other custom purchase needs, please contact our sales department.
- ForDevices reserves the right to amend and legally interpret the electrical parameters of this chip device. (http://www.fordevices.com)

Device Name: DFN2*2-8L



ESD SENSITIVITY CAUTION

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

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▲ Update by May.2021