### SGM4992

### 1.1W Stereo Audio Power Amplifier

### **PACKAGE/ORDERING INFORMATION**

MODEL	ORDER NUMBER	PACKAGE DESCRIPTION	PACKAGE OPTION	MARKING INFORMATION
SGM4992	SGM4992YDA14/TR	TDFN-4×3-14L	Tape and Reel, 3000	SGM4992DA

### **ABSOLUTE MAXIMUM RATINGS**

Supply Voltage	6V
Input Voltage	0.3V to (V <sub>+</sub> ) + 0.3V
Storage Temperature Range	65°C to +150°C
Junction Temperature	150°C
Operating Temperature Range	40°C to +85°C
Lead Temperature Range (Soldering 10se	c)
	260°C
ESD Susceptibility	
НВМ	4000V
MM	400V

#### NOTE:

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

### CAUTION

This integrated circuit can be damaged by ESD if you don't pay attention to ESD protection. SGMICRO recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage. 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.

SGMICRO reserves the right to make any change in circuit design, specification or other related things if necessary without notice at any time. Please contact SGMICRO sales office to get the latest datasheet.

### **PIN CONFIGURATION (TOP VIEW)**





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# **ELECTRICAL CHARACTERISTICS**

 $(T_A = +25^{\circ}C, unless otherwise specified.)$ 

PARAMETER	SYMBOL	. CONDITIONS		MIN	TYP	MAX	UNITS	
Supply Voltage	V+			2.5		5.5	V	
	ΙQ	V <sub>IN</sub> = 0V, I <sub>O</sub> = 0A	V <sub>+</sub> = 5.0V, No Load		8	16	mA	
			V+ = 5.0V, 8Ω Load		10	20		
Quiescent Power Supply Current			V <sub>+</sub> = 3.3V, No Load		7.5	14		
			V+ = 3.3V, 8Ω Load		9.5	17		
			V <sub>+</sub> = 2.6V, No Load		7			
			V <sub>+</sub> = 2.6V, 8Ω Load		9			
Shutdown Current	I <sub>SD</sub>	V <sub>SHDN</sub> = 0V			0.1	3	μA	
Shutdown Voltage Input High	V <sub>SDIH</sub>			1.8			V	
Shutdown Voltage Input Low	V <sub>SDIL</sub>					0.4	V	
Output Offset Voltage	Vos			-55	2	55	mV	
			V <sub>+</sub> = 5.0V		1.10		W	
Output Power per Channel (80)	Po	f = 1kHz,	V <sub>+</sub> = 3.6V		0.58			
		THD+N = 1%	V <sub>+</sub> = 3.0V		0.40			
			V+ = 2.6V		0.30			
Total Harmonic Distortion + Noise	THD+N	$P_0 = 0.5$ Wrms,	f = 1kHz		0.01		%	
		f = 217Hz	V+ = 5.0V		-66		- - - dB	
	DODD		V+ = 3.6V		-63			
			V <sub>+</sub> = 3.0V		-63			
Power Supply Rejection Ratio			V+ = 2.6V		-62			
	1 OIXIX	f = 1kHz	V <sub>+</sub> = 5.0V		-72			
			V+ = 3.6V		-68			
			V <sub>+</sub> = 3.0V		-66			
			V <sub>+</sub> = 2.6V		-64			
Crosstalk	X <sub>TALK</sub>	f = 1kHz, V <sub>+</sub> = 5	IkHz, V <sub>+</sub> = 5V, V <sub>O</sub> = 250mW		-120		dB	
		С <sub>в</sub> = 1µF	V <sub>+</sub> = 5.0V		110			
Wake-I In Time	T <sub>WU</sub>		V+ = 3.6V		110		ms	
			V <sub>+</sub> = 3.0V		100			
			V <sub>+</sub> = 2.6V		100			
	T <sub>SDT</sub>	8Ω Load	V+ = 5.0V		10		2	
Shutdown Time			V <sub>+</sub> = 3.6V		16			
			V+ = 3.0V		17.8		μο	
			V <sub>+</sub> = 2.6V		17.8			



## **TYPICAL PERFORMANCE CHARACTERISTICS**







nine (Sps/div)







Large Signal Step Response









Quiescent Current vs. Temperature

## **TYPICAL PERFORMANCE CHARACTERISTICS**





0

1

2

Shutdown Voltage (V)

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3

## **TYPICAL PERFORMANCE CHARACTERISTICS**







# **TYPICAL APPLICATION**



#### NOTE:

1. A 10k $\Omega$  resistor must be serially connected to  $~\overline{\text{SHDN1}}~$  or  $~\overline{\text{SHDN2}}~$  pin.



## PACKAGE OUTLINE DIMENSIONS

### TDFN-4×3-14L



NOTE: All linear dimensions are in millimeters.



## TAPE AND REEL INFORMATION

### **REEL DIMENSIONS**



NOTE: The picture is only for reference. Please make the object as the standard.

### KEY PARAMETER LIST OF TAPE AND REEL

Package Type	Reel Diameter	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	P1 (mm)	P2 (mm)	W (mm)	Pin1 Quadrant
TDFN-4×3-14L	13″	12.4	3.4	4.4	1.1	4.0	4.0	2.0	12.0	Q1



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#### **CARTON BOX DIMENSIONS**



NOTE: The picture is only for reference. Please make the object as the standard.

### **KEY PARAMETER LIST OF CARTON BOX**

Reel Type Length (mm)		Width (mm)	Height (mm)	Pizza/Carton	
13″	386	280	370	5	

