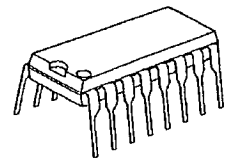
DUAL AUDIO POWER AMPLIFIER

■ GENERAL DESCRIPTION

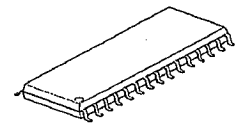
The NJW1105 is a dual audio amplifier which supplies 2.4W (1.2W/channel) to 8Ω loads at 5V. Its features are wide operating voltage range from 4V to 12V and low consumption output by Bi-MOS technology.

The NJW1105 is suitable for speaker amplifier required high output power, such as personal computers, camcorders, and others. It includes thermally protected and mute on/off circuit.

■ PACKAGE OUTLINE



NJW1105D

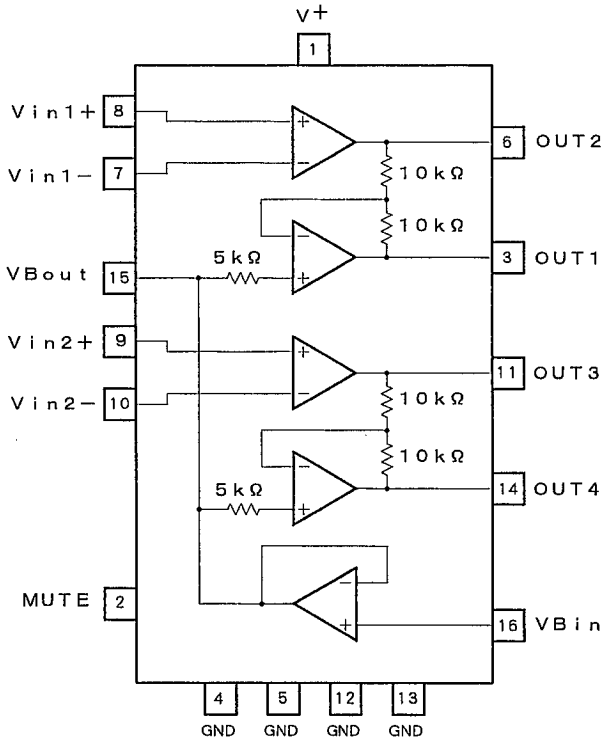


NJW1105M

■ FEATURES

- ●Operating Voltage (V^+=4V～12V)
- ●Output Power (1.2W/ch at V^+=5V, R_L=8Ω)
- ●Supply Current (35mA MAX.)
- ●Supply Current on Mute (3.5mA MAX.)
- ●Bi-MOS Technology
- ●Package Outline DIP16, SDMP30

■ BLOCK DIAGRAM



(Package DIP-16)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	15	V
Operating Current	I_O	1	A
Mute Terminal Current	I_M	1.0	mA
Power Dissipation	P_D	(DIP16) 1.9 (SDMP30) 1.8 (note 1)	W
Operating Temperature Range	T_{opr}	-40～+85	℃
Storage Temperature Range	T_{stg}	-40～+150	℃

(note 1) At on PC board.

■ ELECTRICAL CHARACTERISTICS (V^+=5V, Ta=25℃)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
【ALL】						
Operating Supply Voltage Range	V^+		4	5	12	V
Mute OFF Current Dissipation	$I_{CC}1$	V_M=4.2V, V_{IN}=2.5V	-	20	35	mA
Mute ON Current Dissipation	$I_{CC}2$	V_M=0V, V_{IN}=2.5V	-	2	3.5	mA
【POWER AMPLIFIER】						
Output Offset Voltage	ΔV_O	R_L=8Ω	-50	-	50	mV
Input Bias Current	I_B		-	-	300	nA
Output Power	P_O1	THD=10%, f=1kHz, R_L=8Ω	-	1.2	-	W
	P_O2	THD=10%, f=1kHz, R_L=8Ω, V^+=7V	-	2.5	-	W
Total Harmonic Distortion	THD	R_L=8Ω, Po=800mW, f=1kHz	-	0.35	-	%
Power Supply Rejection Ratio	PSRR	f=1kHz	-	45	-	dB
Voltage Gain	A_V	AMP2, AMP3, R_L=2kΩ, V_{IN}=2.5V	35	50	-	dB
【BUFFER AMPLIFIER】						
Input Output Potential Difference	V_{BO}		-30	0	30	mV
Input Voltage Range	V_{BI}		1.5	2.5	3.5	V
Output Voltage Range	ΔV_{BO}	I_L=-5mA I_L=+5mA	-	-	-50	mV
【MUTING】						
Mute OFF Voltage	V_{MH}		3.5	4.2	-	V
Mute ON Voltage	V_{ML}		-	0.8	1.0	V
Mute Sink Current	I_M	V_M=5V	70	100	130	μA

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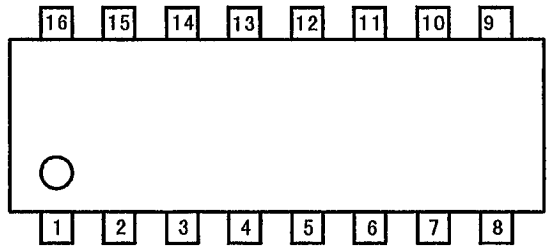
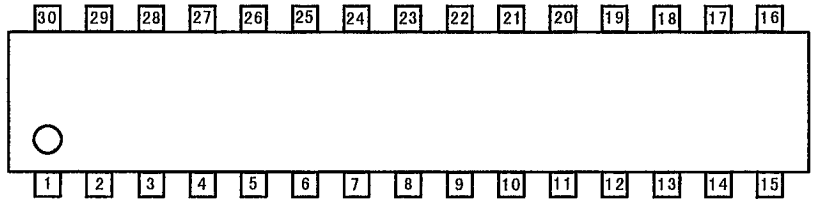
■ PIN CONFIGRATION



DIP-16

1 : V^+	9 : Vin2 (+)
2 : MUTE	10 : Vin2 (−)
3 : OUT1	11 : OUT3
4 : GND	12 : GND
5 : GND	13 : GND
6 : OUT2	14 : OUT4
7 : Vin1 (−)	15 : VBout
8 : Vin1 (+)	16 : VBin

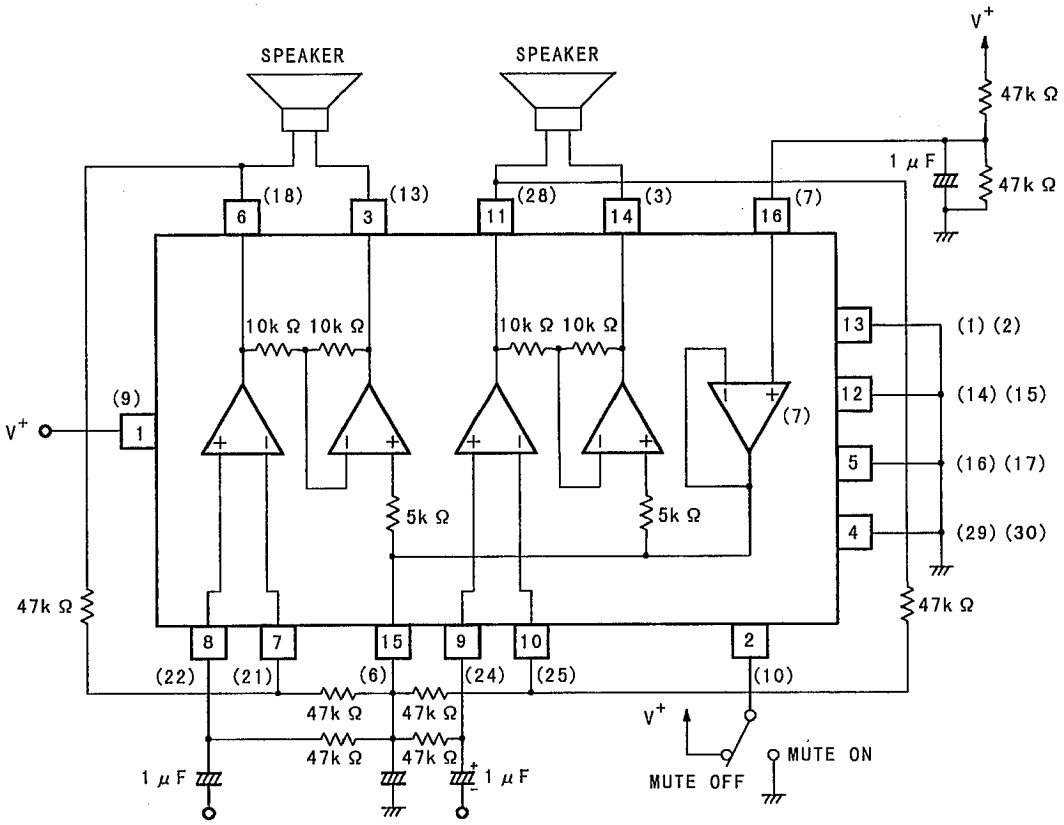


SDMP-30

1 : GND	16 : GND
2 : GND	17 : GND
3 : OUT4	18 : OUT2
4 : NC	19 : NC
5 : NC	20 : NC
6 : VBout	21 : Vin1 (−)
7 : VBin	22 : Vin1 (+)
8 : NC	23 : NC
9 : V^+	24 : Vin2 (+)
10 : MUTE	25 : Vin2 (−)
11 : NC	26 : NC
12 : NC	27 : NC
13 : OUT1	28 : OUT3
14 : GND	29 : GND
15 : GND	30 : GND

■ APPLICATION CIRCUIT

(1) BTL



(The number in ' ( )' indicates a pin number of SDMP.)

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