

# AV SWITCH AMPLIFIER

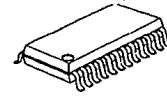
## GENERAL DESCRIPTION

The NJM2298 is an AV switch amplifier consisted 2-input 1-output video switch and dual 2-input 2-output audio switches.

The NJM2298 includes voltage control amplifier and mute circuit in the audio block.

It is suitable for output circuit of CATV, and Other AV systems

## PACKAGE OUTLINE

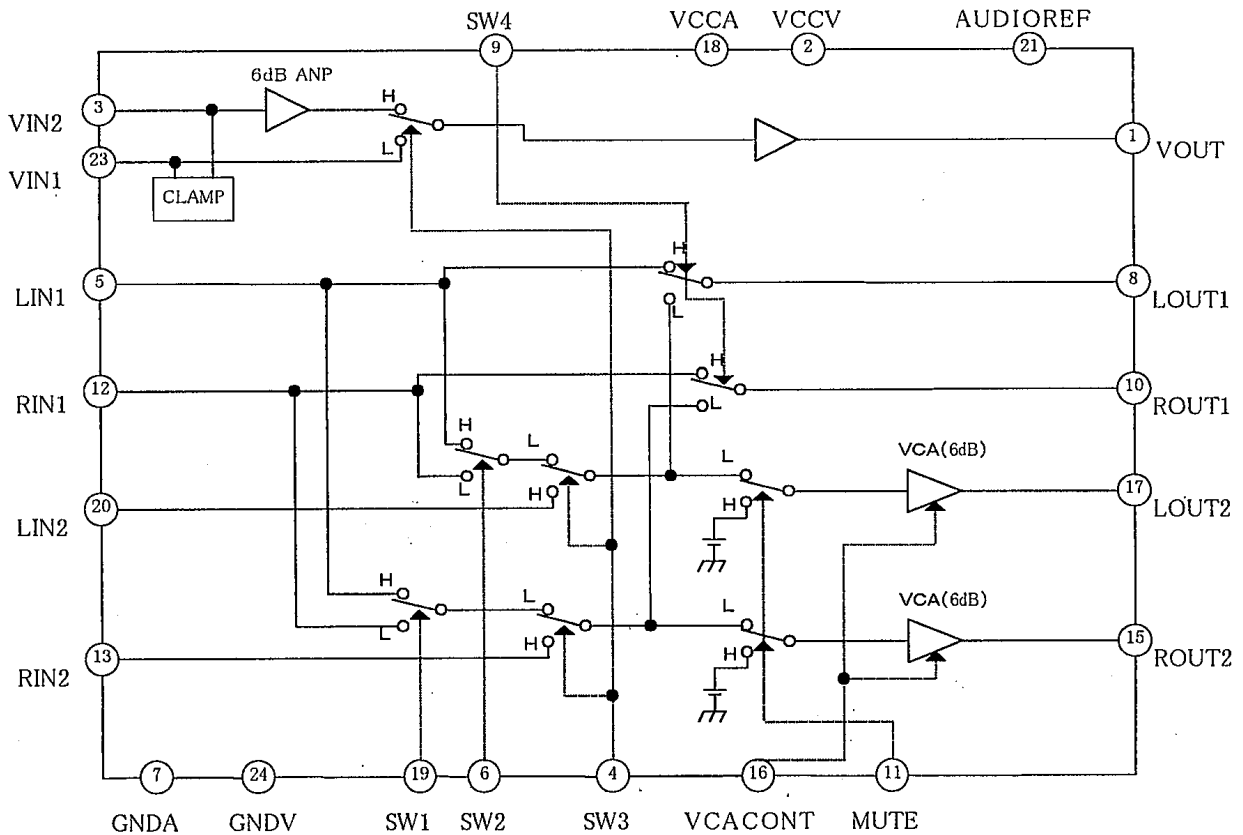


NJM2298M

## FEATURES

- Operating Voltage 4.5~5.5V
- Cross-talk 70dB @ 4.43MHz
- Internal Voltage Control Amplifier
- Internal Mute Circuit
- Bipolar Technology
- Package Outline DMP24

## BLOCK DIAGRAM



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## ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+</sup>	10	V
Power Dissipation	P <sub>D</sub>	500	mW
Operating Temperature Range	T <sub>opr</sub>	-20~+75	°C
Storage Temperature Range	T <sub>stg</sub>	-40~+125	°C

## ■ ELECTRICAL CHARACTERISTICS (V<sup>+</sup>=5.0V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V <sup>+</sup>		4.5	5.0	5.5	V
Supply Current	I <sub>cc</sub>	V <sub>IN</sub> =0	—	10	—	mA
Power Dissipation	P <sub>D</sub>	V <sub>IN</sub> =0	—	50	—	mW

(Video) P<sub>L</sub>=10kΩ

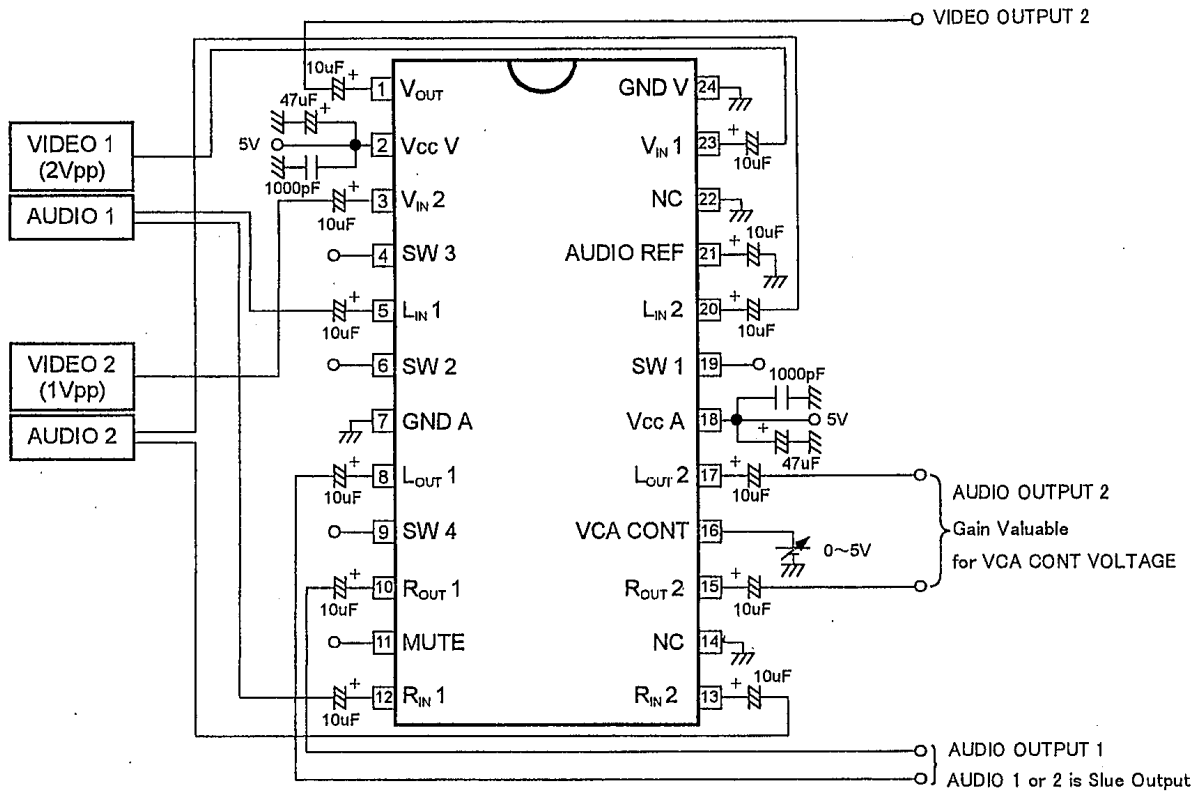
Voltage Gain 1	G <sub>v1</sub>	V <sub>in</sub> =1.0Vpp, 100kHz, V <sub>o</sub> /V <sub>i1</sub>	5.7	6.2	6.7	dB
Voltage Gain 2	G <sub>v2</sub>	V <sub>in</sub> =2.0Vpp, 100kHz, V <sub>o</sub> /V <sub>i2</sub>	-0.6	-0.1	0.4	dB
Frequency Characteristic 1	G <sub>f1</sub>	V <sub>in</sub> =1.0Vpp, V <sub>o</sub> (5MHz)/V <sub>o</sub> (100kHz)	-1.0	0.0	1.0	dB
Frequency Characteristic 2	G <sub>f2</sub>	V <sub>in</sub> =2.0Vpp, V <sub>o</sub> (10MHz)/V <sub>o</sub> (100kHz)	-1.0	0.0	1.0	dB
Differential Gain	DG	V <sub>in</sub> =1.0Vpp, 10STEP Signal	-3.0	0.3	3.0	%
Differential Phase	DP	V <sub>in</sub> =1.0Vpp, 10STEP Signal	-3.0	0.3	3.0	dB
Crosstalk	CT	V <sub>in</sub> =1.0Vpp, 4.43MHz, V <sub>in1</sub> -V <sub>in2</sub>	-90	-70	-60	dB
	VCH	High Level	2.4	2.0	—	V
Switching Voltage	VCL	Low Level	—	1.0	0.8	V

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(Audio) R<sub>L</sub>=47kΩ

Voltage Gain 1	G <sub>v1</sub>	V <sub>in</sub> =1.0Vpp, 1kHz	-1.0	0.0	1.0	dB
Voltage Gain 2	G <sub>v2</sub>	V <sub>in</sub> =1.0Vpp, 1kHz, VCA=4V	5.0	6.0	7.0	
Frequency Characteristic 1	G <sub>f1</sub>	Lin1/Rin1-Lout1/Rout1, V <sub>in</sub> =1.0Vpp, 1kHz/100kHz	—	0.0	-3.0	dB
Frequency Characteristic 2	G <sub>f2</sub>	Lin2/Rin2-Lout2/Rout2, V <sub>in</sub> =1.0Vpp, 1kHz/100kHz, VCA=4V	—	0.0	-3.0	dB
Total Harmonic Distortion 1	THD1	Lin1/Rin1-Lout1/Rout1, V <sub>out</sub> =1.0Vrms, 1kHz	—	0.1	0.5	%
Total Harmonic Distortion 2	THD2	Lin2/Rin2-Lout2/Rout2, V <sub>out</sub> =1.0Vrms, 1kHz, VCA=4V	—	0.1	0.5	%
Crosstalk	CT	V <sub>in</sub> =1.0Vpp, 1kHz, VCA=4V	—	-60	-50	dB
Mute Attenuation	MU	V <sub>in</sub> =1.0Vpp, 1kHz, MUTE=ON	—	70	60	dB
Right and Left Level Difference	RLC		—	0.0	±2.0	dB
VCA Control	G <sub>vca</sub>	V <sub>in</sub> =1.0Vpp, 1kHz, VCA=0.5V/4V	-60	-70	—	dB

## TEST CIRCUIT



## MEMO

**[CAUTION]**

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