

## AV SWITCH AMPLIFIER

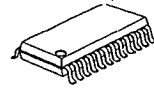
### ■ GENERAL DESCRIPTION

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

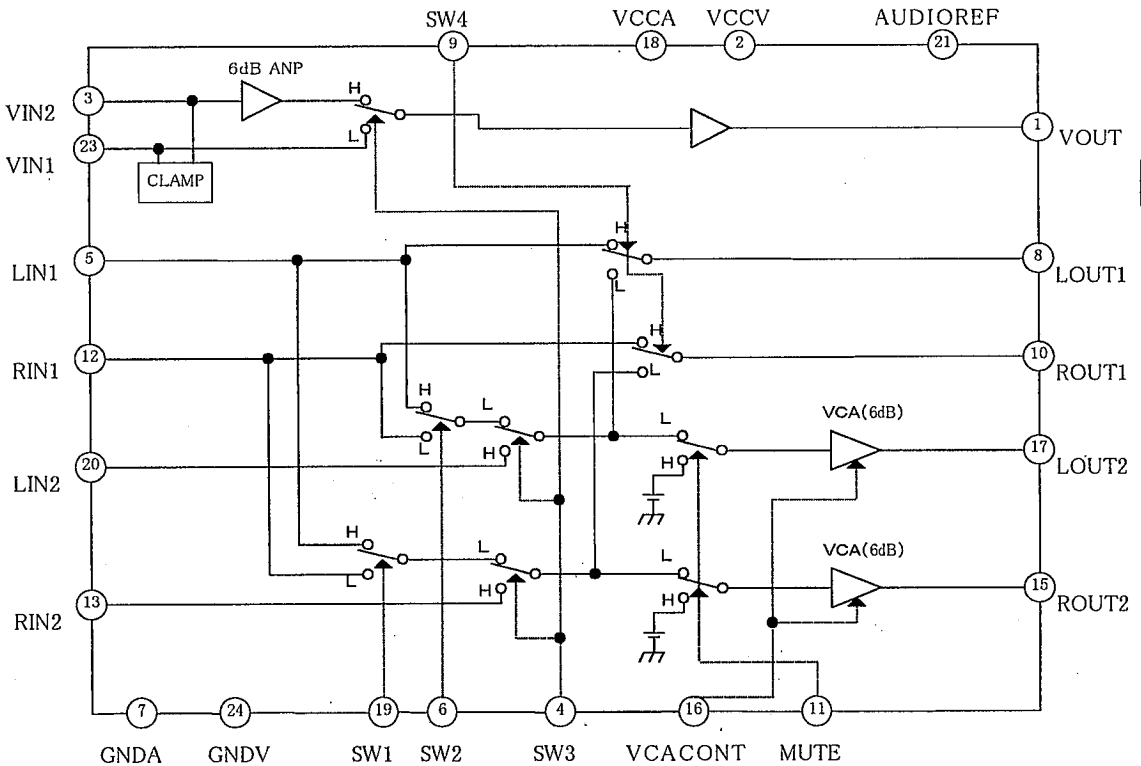


NJM2298M

### ■ FEATURES

- Operating Voltage                    4.5~5.5.V
- 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

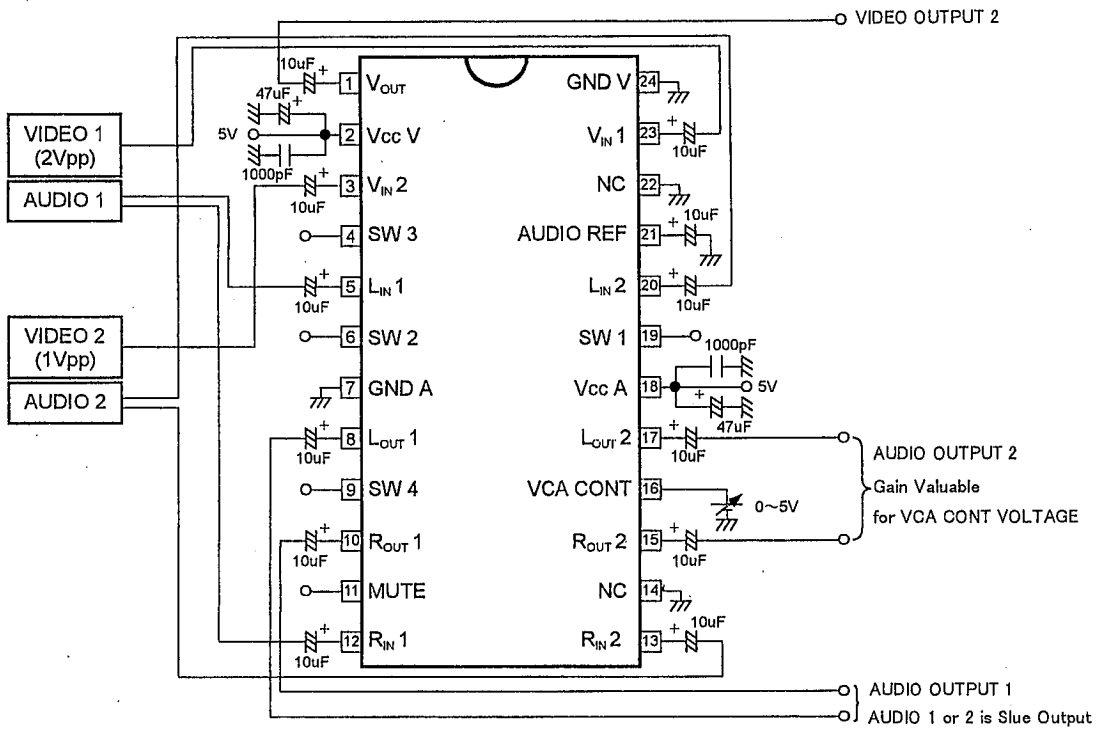
(Video) P<sub>L</sub>=10kΩ

Voltage Gain 1	G <sub>v1</sub>	Vin=1.0Vpp,100kHz,Vo/Vi1	5.7	6.2	6.7	dB
Voltage Gain 2	G <sub>v2</sub>	Vin=2.0Vpp,100kHz,Vo/Vi2	-0.6	-0.1	0.4	dB
Frequency Characteristic 1	G <sub>f1</sub>	Vin=1.0Vpp,Vo(5MHz)/Vo(100kHz)	-1.0	0.0	1.0	dB
Frequency Characteristic 2	G <sub>f2</sub>	Vin=2.0Vpp,Vo(10MHz)/Vo(100kHz)	-1.0	0.0	1.0	dB
Differential Gain	DG	Vin=1.0Vpp,10STEP Signal	-3.0	0.3	3.0	%
Differential Phase	DP	Vin=1.0Vpp,10STEP Signal	-3.0	0.3	3.0	dB
Crosstalk	CT	Vin=1.0Vpp,4.43MHz,Vin1-Vin2	-90	-70	-60	dB
Switching Voltage	VCH	High Level	2.4	2.0	—	V
	VCL	Low Level	—	1.0	0.8	V

(Audio) R<sub>L</sub>=47kΩ

Voltage Gain 1	G <sub>v1</sub>	Vin=1.0Vpp,1kHz	-1.0	0.0	1.0	dB
Voltage Gain 2	G <sub>v2</sub>	Vin=1.0Vpp,1kHz,VCA=4V	5.0	6.0	7.0	
Frequency Characteristic 1	G <sub>f1</sub>	Lin1/Rin1-Lout1/Rout1, Vin=1.0Vpp,1kHz/100kHz	—	0.0	-3.0	dB
Frequency Characteristic 2	G <sub>f2</sub>	Lin2/Rin2-Lout2/Rout2, Vin=1.0Vpp,1kHz/100kHz,VCA=4V	—	0.0	-3.0	dB
Total Harmonic Distortion 1	THD1	Lin1/Rin1-Lout1/Rout1, Vout=1.0Vrms,1kHz	—	0.1	0.5	%
Total Harmonic Distortion 2	THD2	Lin2/Rin2-Lout2/Rout2, Vout=1.0Vrms,1kHz,VCA=4V	—	0.1	0.5	%
Crosstalk	CT	Vin=1.0Vpp,1kHz,VCA=4V	—	-60	-50	dB
Mute Attenuation	MU	Vin=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>	Vin=1.0Vpp,1kHz,VCA=0.5V/4V	-60	-70	—	dB

TEST CIRCUIT



## MEMO

[CAUTION]

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