

AV SWITCH AMPLIFIER

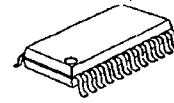
■ GENERAL DESCRIPTION

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

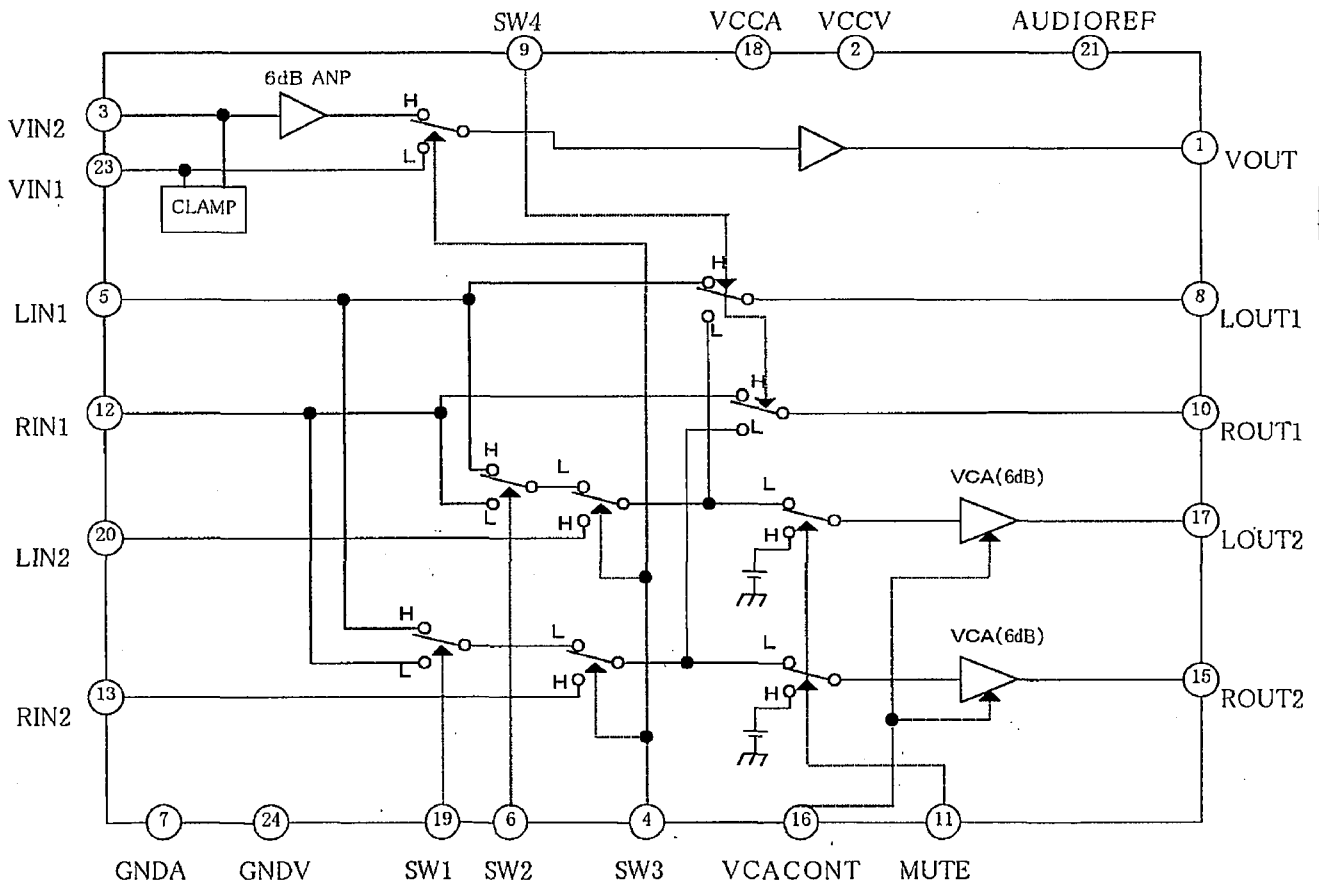


NJM2298M

■ 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



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	10	V
Power Dissipation	P _D	500	mW
Operating Temperature Range	T _{opr}	-20~+75	°C
Storage Temperature Range	T _{stg}	-40~+125	°C

■ ELECTRICAL CHARACTERISTICS (V⁺=5.0V, Ta=25°C.)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V ⁺		4.5	5.0	5.5	V
Supply Current	I _{cc}	V _{IN} =0	—	10	—	mA
Power Dissipation	P _D	V _{IN} =0	—	50	—	mW

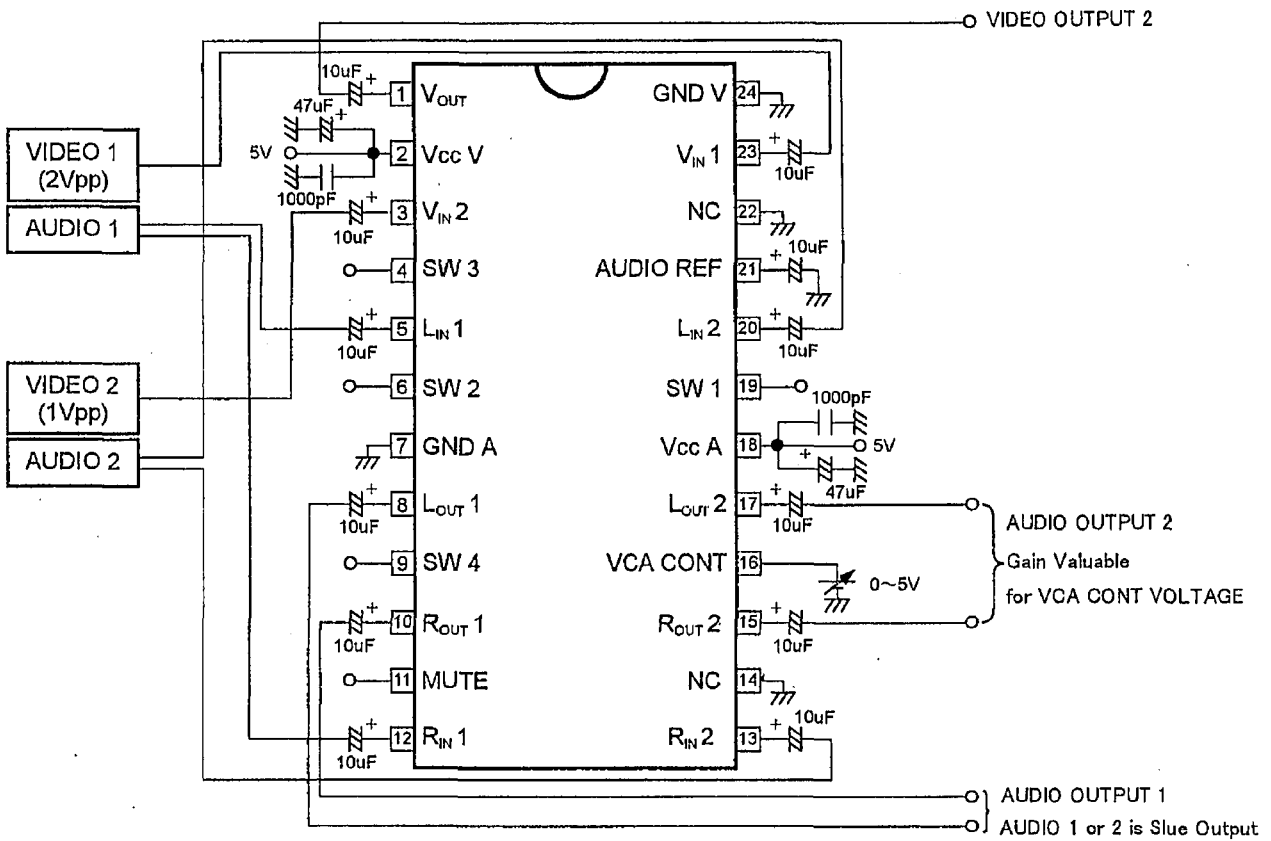
(Video) P_L=10kΩ

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

(Audio) R_L=47kΩ

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

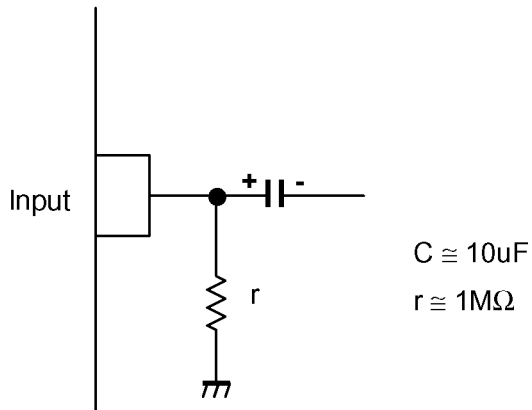
■ TEST CIRCUIT



NJM2298

■APPLICATION

This IC requires $1\text{M}\Omega$ resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



[CAUTION]

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