

AV SWITCH AMPLIFIER

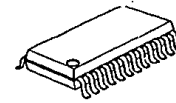
■ GENERAL DESCRIPTION

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

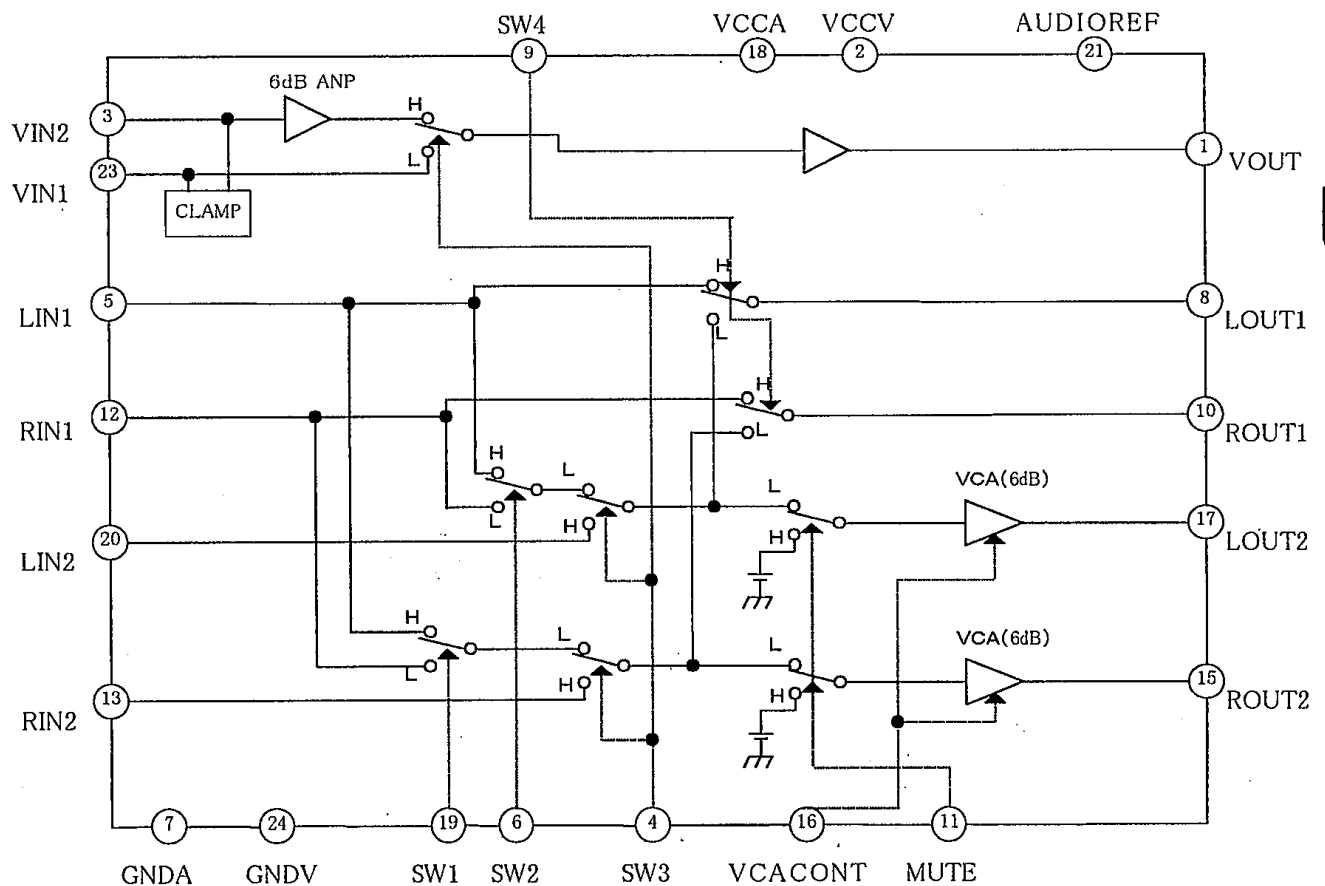


NJM2298M

■ 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



5

■ 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

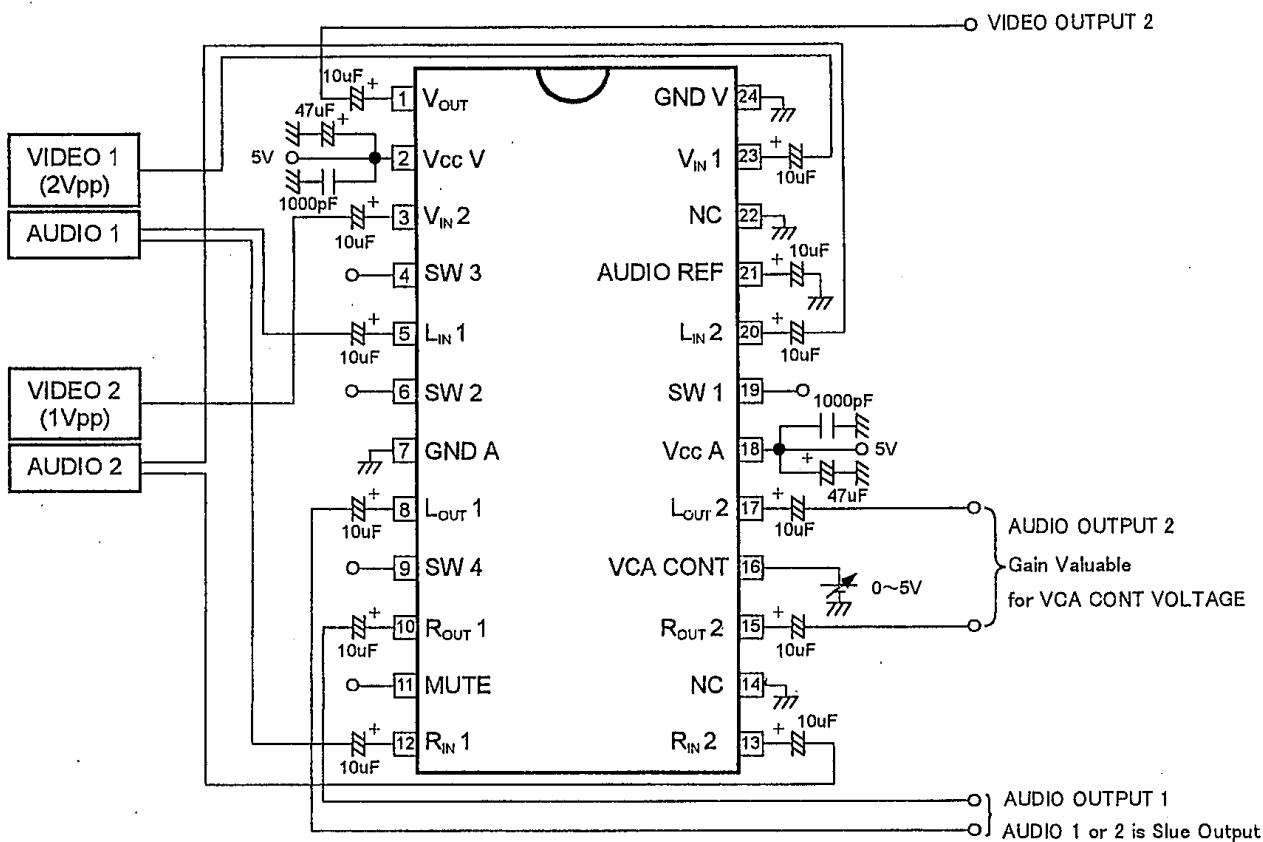
(Video) P_L=10kΩ

Voltage Gain 1	G _{v1}	V _{in} =1.0V _{pp} , 100kHz, V _o /V _{i1}	5.7	6.2	6.7	dB
Voltage Gain 2	G _{v2}	V _{in} =2.0V _{pp} , 100kHz, V _o /V _{i2}	-0.6	-0.1	0.4	dB
Frequency Characteristic 1	G _{f1}	V _{in} =1.0V _{pp} , V _o (5MHz)/V _o (100kHz)	-1.0	0.0	1.0	dB
Frequency Characteristic 2	G _{f2}	V _{in} =2.0V _{pp} , V _o (10MHz)/V _o (100kHz)	-1.0	0.0	1.0	dB
Differential Gain	DG	V _{in} =1.0V _{pp} , 10STEP Signal	-3.0	0.3	3.0	%
Differential Phase	DP	V _{in} =1.0V _{pp} , 10STEP Signal	-3.0	0.3	3.0	dB
Crosstalk	CT	V _{in} =1.0V _{pp} , 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} =1.0V _{pp} , 1kHz	-1.0	0.0	1.0	dB
Voltage Gain 2	G _{v2}	V _{in} =1.0V _{pp} , 1kHz, VCA=4V	5.0	6.0	7.0	
Frequency Characteristic 1	G _{f1}	Lin1/Rin1—Lout1/Rout1, V _{in} =1.0V _{pp} , 1kHz/100kHz	—	0.0	-3.0	dB
Frequency Characteristic 2	G _{f2}	Lin2/Rin2—Lout2/Rout2, V _{in} =1.0V _{pp} , 1kHz/100kHz, VCA=4V	—	0.0	-3.0	dB
Total Harmonic Distortion 1	THD1	Lin1/Rin1—Lout1/Rout1, V _{out} =1.0V _{rms} , 1kHz	—	0.1	0.5	%
Total Harmonic Distortion 2	THD2	Lin2/Rin2—Lout2/Rout2, V _{out} =1.0V _{rms} , 1kHz, VCA=4V	—	0.1	0.5	%
Crosstalk	CT	V _{in} =1.0V _{pp} , 1kHz, VCA=4V	—	-60	-50	dB
Mute Attenuation	MU	V _{in} =1.0V _{pp} , 1kHz, MUTE=ON	—	70	60	dB
Right and Left Level Difference	RLC		—	0.0	±2.0	dB
VCA Control	G _{vca}	V _{in} =1.0V _{pp} , 1kHz, VCA=0.5V/4V	-60	-70	—	dB

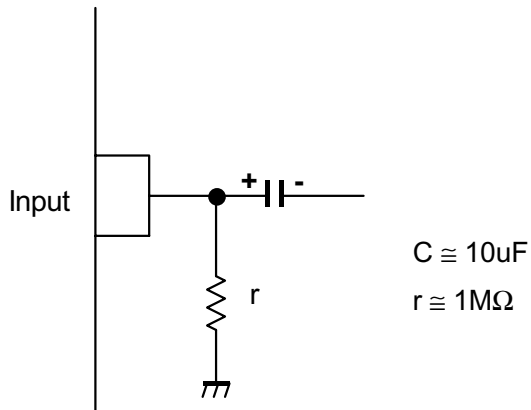
TEST CIRCUIT



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]

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.