

4-INPUT 1MUTE VIDEO SWITCH

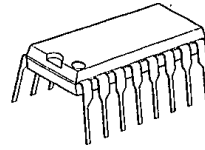
■ GENERAL DESCRIPTION

The NJM2293 is a switching IC for switching over from one audio or video input signal to another. It is a higher efficiency video switch, featuring the operating voltage 4.75 to 13V, the frequency feature 7MHz, and then the Crosstalk 75dB (at 4.43MHz).

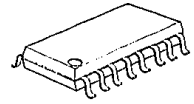
■ FEATURES

- 4 Input-1 Output
- Operating Voltage (+4.75V ~ +13V)
- Crosstalk 75dB(at 4.43MHz)
- Wide Bandwidth Frequency 7MHz(2V_{P-P} Input)
- Package Outline DIP16, DMP16.
- Bipolar Technology

■ PACKAGE OUTLINE



NJM2293D



NJM2293M

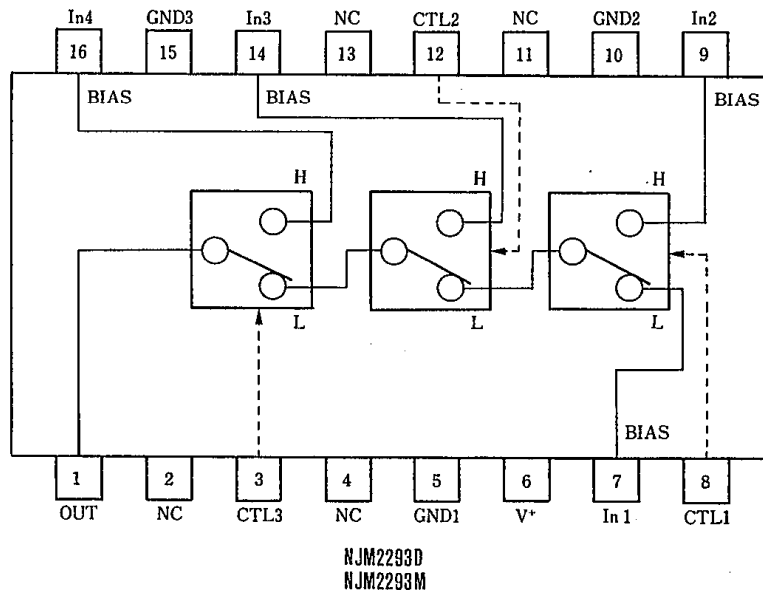
■ RECOMMENDED OPERATING CONDITION

- Operating Voltage V⁺ 4.75~13.0V

■ APPLICATIONS

- VCR, Video Camera, AV-TV, Video Disk Player.

■ BLOCK DIAGRAM



■ MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V*	14	V
Power Dissipation	P _D	(DIP-16) 700 (DMP-16) 350	mW mW
Operating Temperature Range	T _{opr}	-40~+85	°C
Storage Temperature Range	T _{stg}	-40~+125	°C

■ ELECTRICAL CHARACTERISTICS

(V*=5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current (1)	I _{cc1}	V*=5V (Note1)	4.5	6.5	8.5	mA
Operating Current (2)	I _{cc2}	V*=9V (Note1)	5.8	8.3	10.8	mA
Voltage Gain	G _v	V _i = 100kHz, 2V _{p-p} , V _o /V _i	-0.7	-0.2	+0.3	dB
Frequency Gain (1)	G _{F1}	V _i = 2V _{p-p} , V _o (7MHz)/V _o (100kHz)	-1.0	0	+1.0	dB
Frequency Gain (2)	G _{F2}	V _i = 1V _{p-p} , V _o (10MHz)/V _o (100kHz)	—	0	—	dB
Differential Gain	DG	V _i = 2V _{p-p} , Standard Staircase Signal	—	0.3	—	%
Differential Phase	DP	V _i = 2V _{p-p} , Standard Staircase Signal	—	0.3	—	deg
OutPut offset Voltage	V _{os}	(Note2)	-4.5	0	+45	mV
Crosstalk	CT	V _i = 2V _{p-p} , 4.43MHz, V _o / V _i	—	-75	—	dB
Switch Change Over Voltage	V _{CH}	All inside Switches ON	2.5	—	—	V
Switch Change Over Voltage	V _{CL}	All inside Switches OFF	—	—	1.0	V

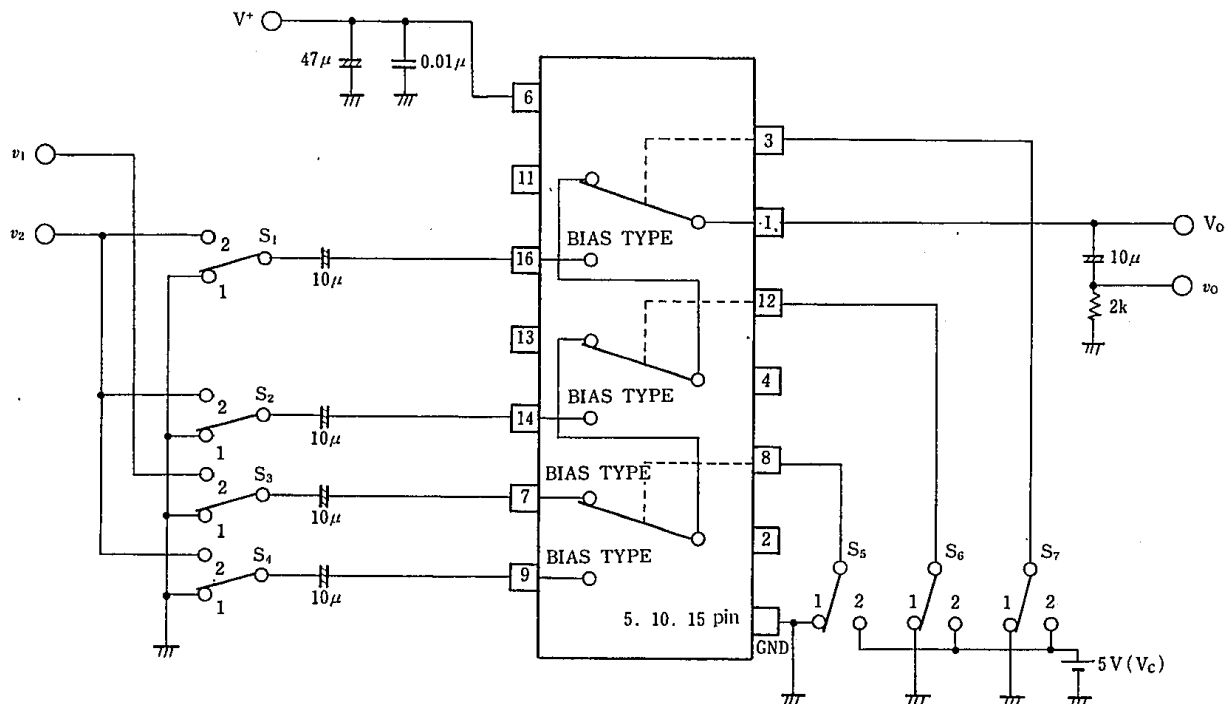
(Note1) S1=S2=S3=S4=S5=S6=S7=1

(Note2) S1=S2=S3=S4=1 Measure the output DC voltage difference

a) S5=S6=S7=1, b) S7=2, S5=S6=1

c) S6=2, S5=1 d) S5=2

■ TEST CIRCUIT



■ TERMINAL EXPLANATION

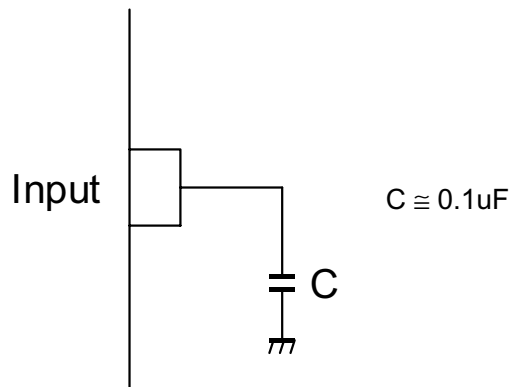
PIN NO.	PIN NAME	VOLTAGE	INSIDE EQUIVALENT CIRCUIT
7 9 14 16	IN 1 IN 2 IN 3 IN 4 (Input)	2.5V	
8 12 3	CTL1 CTL2 CTL3 (Switching)		
1	OUT (Output)	1.8V	
6	V+	5V	
5 10 15	GND 1 GND 2 GND 3		

5

NJM2293

■APPLICATION

This IC requires 0.1uF capacitor between INPUT and GND for bias type input at mute mode.



[CAUTION]

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