

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 (+4.75 to +13V)
- Crosstalk 75dB (at 4.43MHz)
- Wide Bandwidth Frequency 7MHz (2V_{P-P} Input)
- Package Outline DIP16, DMP16
- Bipolar Technology

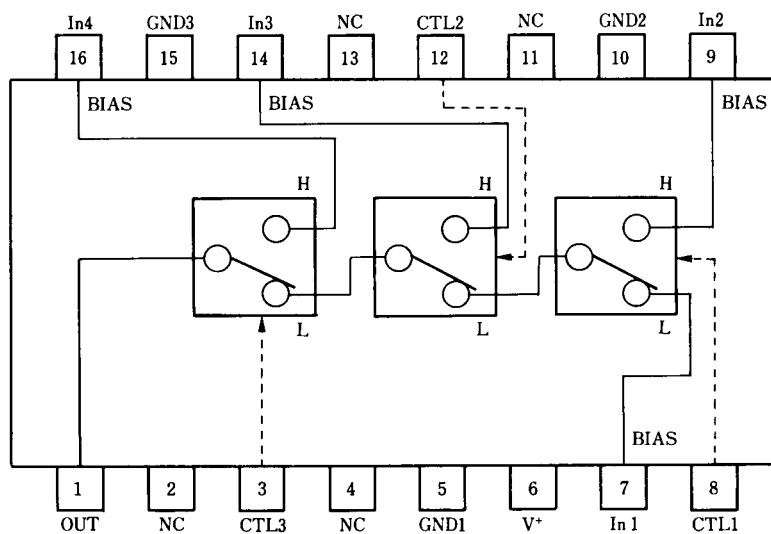
■ RECOMMENDED OPERATING CONDITION

- Operating Voltage V⁺ 4.75 to 13.0V

■ APPLICATIONS

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

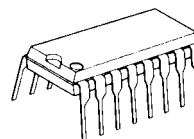
■ BLOCK DIAGRAM



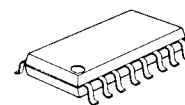
NJM2293D

NJM2293M

■ PACKAGE OUTLINE



NJM2293D



NJM2293M

NJM2293

■ MAXIMUM RATINGS

 $(T_a = 25^\circ\text{C})$

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	14	V
Power Dissipation	P _D	(DIP16) 700 (DMP16) 350	mW mW
Operating Temperature Range	T _{opr}	-40 to +85	°C
Storage Temperature Range	T _{stg}	-40 to +125	°C

■ ELECTRICAL CHARACTERISTICS

 $(V^+ = 5V, T_a = 25^\circ\text{C})$

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 _F 1	V _I = 2V _{P-P} , V _O (7MHz) / V _O (100kHz)	-1.0	0	+1.0	dB
Frequency Gain (2)	G _F 2	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 Phasa	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

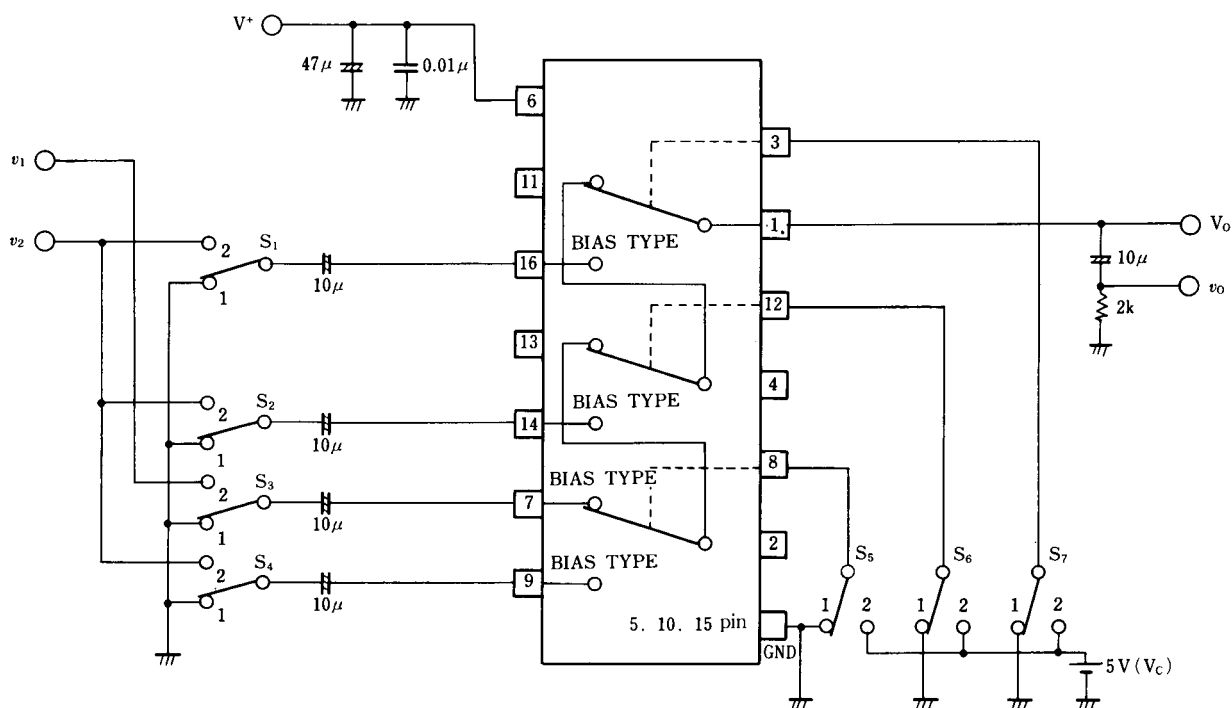
(Note1) $S1 = S2 = S3 = S4 = S5 = S6 = S7 = 1$

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

a) $S_5 = S_6 = S_7 = 1$, b) $S_7 = 2$, $S_5 = S_6 = 1$

c) $S_6 = 2, S_5 = 1$ d) $S_5 = 2$

■ TEST CIRCUIT

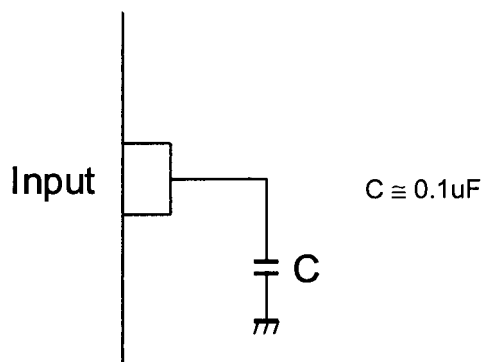


■ TERMINAL EXPLANATION

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	CTL 1 CTL 2 CTL 3 [Switching]		
1	OUT [Output]	1.8V	
6	V ⁺	5V	
5 10 15	GND 1 GND 2 GND 3		

■ APPLICATION

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



[CAUTION]

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