

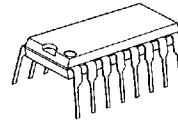
NJM2293

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 supply voltage 5 to 12 V, the frequency feature 7 MHz. and then the Crosstalk 75 dB (at 4.43 MHz.).

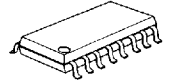
■ Feature

- 4 Input-1 Output
- Wide Operating Supply Voltage
- Crosstalk 75dB (at 4.43MHz)
- Wide Bandwidth Frequency 7MHz (2V_{P-P} Input)
- DIP-16, DMP-16

■ Package Outline



NJM2293D



NJM2293M

■ Applications

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

■ Maximum Ratings (Ta=25°C)

Supply Voltage	V ⁺	14V
Power Dissipation	P _D (D-type)	700mW
	(M-type)	350mW
Operating Temperature Range	T _{opr}	-20~+75°C
Storage Temperature Range	T _{stg}	-40~+125°C

■ Recommended Operating Condition

Supply Voltage	V ⁺	4.75~13.0V
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■ Electrical Characteristics (V⁺=5V, Ta=25°C)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Supply Current (1)	I _{cc1}	V ⁺ =5V (Note1)	4.5	6.5	8.5	mA
Supply 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

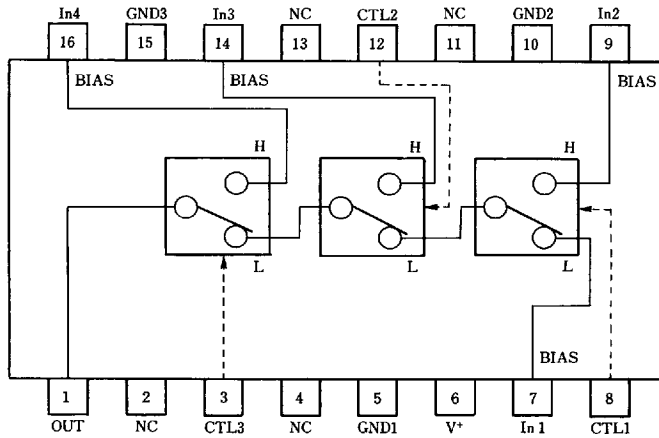
(Note1) S1=S2=S3=S4=S5=S6=S7=1

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

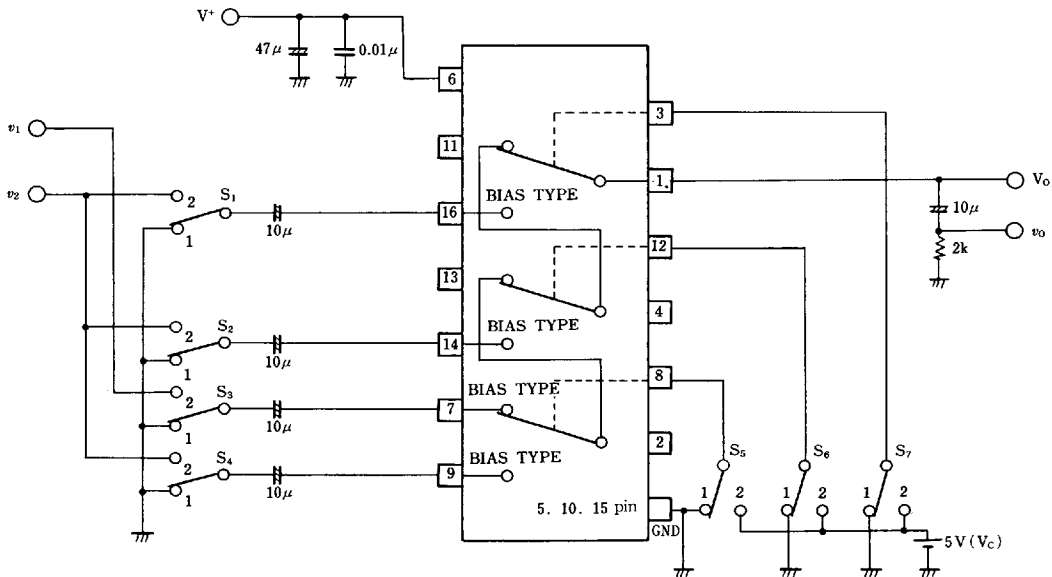
a) S5=S6=S7=1, b) S7=2, S5=S6=1

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

■ Block Diagram



■ Test Circuit



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■ 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+	5 V	
5 10 15	GND 1 GND 2 GND 3		