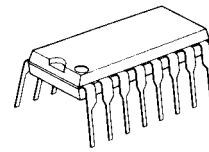


## 3-INPUT / 2-INPUT VIDEO SWITCH

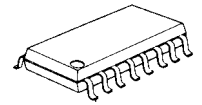
### ■ GENERAL DESCRIPTION

The **NJM2523** is a switching IC for switching over from one audio or video input signal to another. Internalizing 3 input-1 output, and 2 input-1 output and then each set can be operated independently. One of 2 input-1 output are Clamp type", and they can be operated while setting DC level fixed in position of the video signal. It is a higher efficiency video switch, featuring the operating voltage 4.75 to 13V, the frequency feature 10MHz, and then the Crosstalk 75dB (at 4.43MHz).

### ■ PACKAGE OUTLINE



**NJM2523D**



**NJM2523M**

### ■ FEATURES

- Operating Voltage (+4.75V to +13V)
- Input-1 Output Internalizing 3 circuits (Two of them are Clamp type).
- Crosstalk 75dB (at 4.43MHz)
- Wide Bandwidth Frequency 10MHz (2V<sub>P-P</sub> Input)
- Package Outline                   DIP16, DMP16

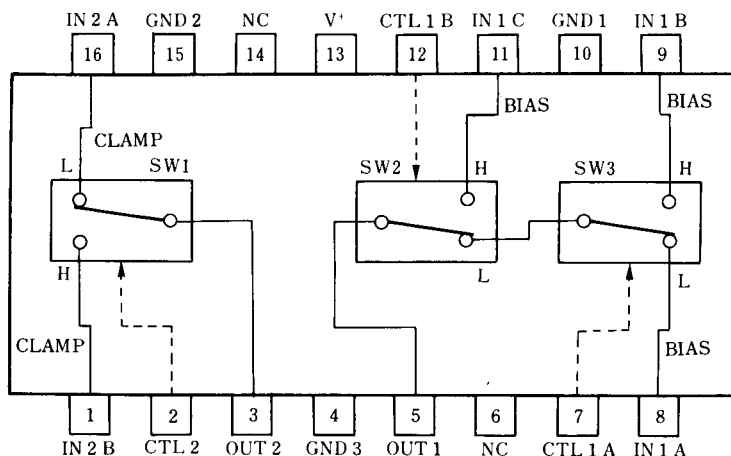
### ■ RECOMMENDED OPERATING CONDITION

- Operating Voltage                   V<sup>+</sup>                   4.75V to 13.0V

### ■ APPLICATIONS

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

### ■ BLOCK DIAGRAM



**NJM2523D**  
**NJM2523M**

# NJM2523

## ■ 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	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-40 to +125	$^\circ\text{C}$

## ■ ELECTRICAL CHARACTERISTICS

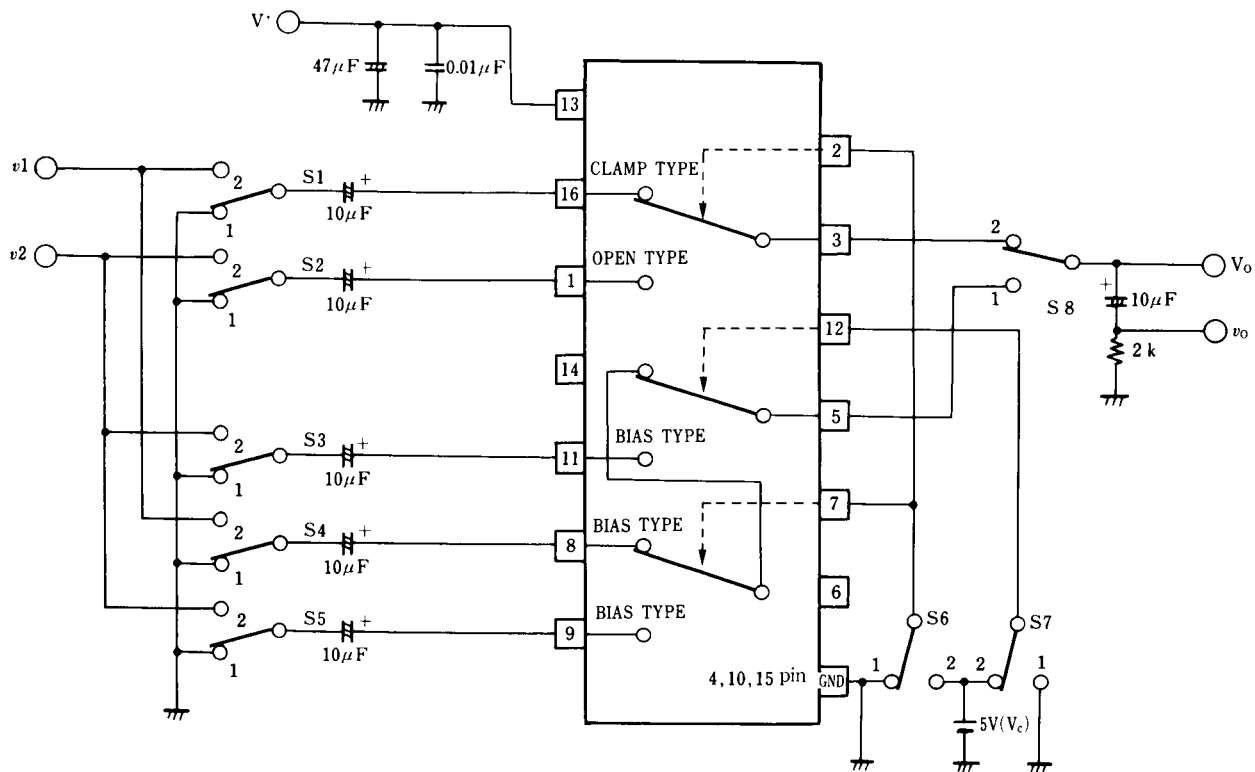
( $V^+ = 5\text{V}$ ,  $T_a = 25^\circ\text{C}$ )

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current (1)	$I_{CC1}$	$V^+ = 5\text{V}$ (Note1)	6.7	9.7	12.7	mA
Operating Current (2)	$I_{CC2}$	$V^+ = 9\text{V}$ (Note1)	8.6	12.3	16.0	mA
Voltage Gain	$G_V$	$V_i = 100\text{kHz}$ , $2V_{P-P}$ , $V_O / V_i$	-0.6	-0.1	+0.4	dB
Frequency Gain	$G_F 1$	$V_i = 2V_{P-P}$ , $V_O (10\text{MHz}) / V_O (100\text{kHz})$	-1.0	0	+1.0	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	$V_{OS1}$	(Note2)	-25	0	+25	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)  $S1 = S2 = S3 = S4 = S5 = 1$ ,  $S8 = 1$ ,  $S7 = 1$ ,  $S6 = 1 \rightarrow 2$  ( $S6 = 1$ ,  $S7 = 1 \rightarrow 2$ ) Measure the output DC voltage difference

## ■ TEST CIRCUIT



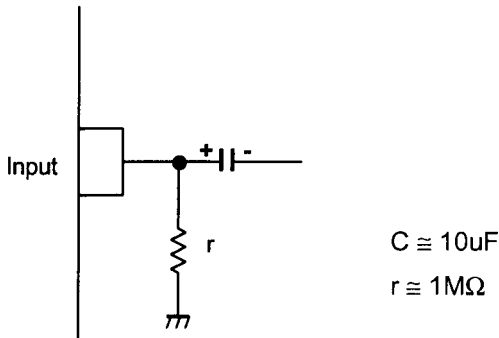
## ■ TERMINAL EXPLANATION

PIN No.	PIN NAME	VOL	INSIDE EQUIVALENT CIRCUIT
8 9 11	IN 1 A IN 1 B IN 1 C [Input]	2.5V $\left(\frac{1}{2}V^+\right)$	
16	IN 2 A [Input]	1.5V $\left(\frac{3}{10}V^+\right)$	
1	IN 2 B [Input]		
7 12 2	CTL 1A CTL 1B CTL 2 [Switching]		
5	OUT1 [Output]	1.8V $\left(\frac{1}{2}V^+ - 0.7\right)$	
3	OUT2 [Output]	0.8V $\left(\frac{3}{10}V^+ - 0.7\right)$	
13	V <sup>+</sup>	5V	
15 4 10	GND 1 GND 2 GND 3		

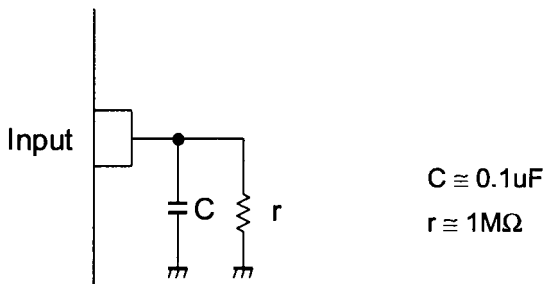
# NJM2523

## ■ APPLICATION

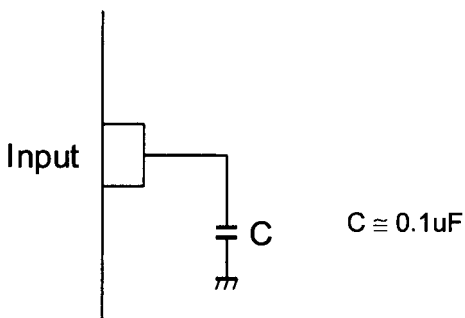
This IC requires  $1\text{M}\Omega$  resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



This IC requires  $0.1\mu\text{F}$  capacitor between INPUT and GND,  $1\text{M}\Omega$  resistance between INPUT and GND for clamp type input at mute mode.



This IC requires  $0.1\mu\text{F}$  capacitor between INPUT and GND for bias type input at mute mode.



[CAUTION]  
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