

### 3-INPUT 1-OUTPUT VIDEO SWITCH

■ GENERAL DESCRIPTION

The NJM2535 is a video switch for VCR, TV and others.  
It contains three cramp-type inputs and one buffer-type output.

■ PACKAGE OUTLINE

■ FEATURES

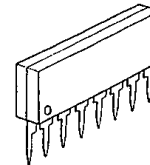
- Operating Voltage (+4.5V ~ +13V)
- Low Operating Current (4.6mA MAX)
- Crosstalk (-70dB)
- 3-Input, 1-Output
- Bipolar Technology
- Package Outline DIP8, DMP8, SIP8, SSOP8



NJM2535D



NJM2535M

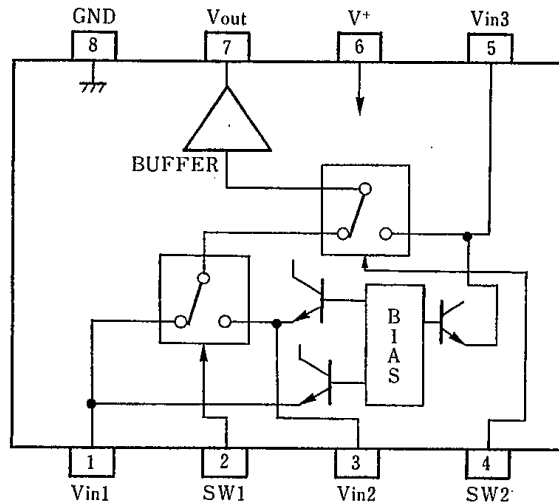


NJM2535L



NJM2535V

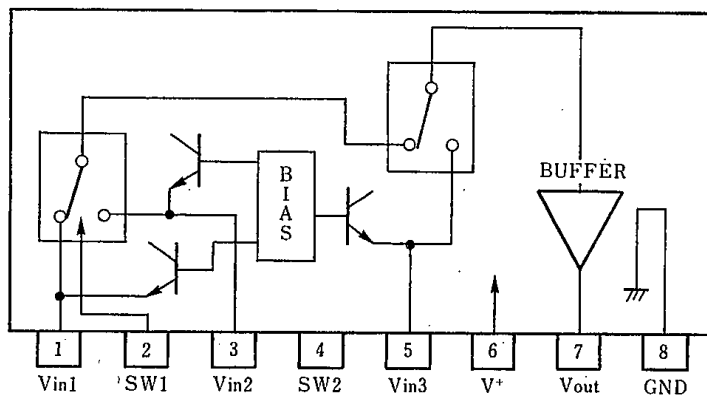
■ PIN CONFIGURATION



PIN FUNCTION

- 1 : Vin1
- 2 : SW1
- 3 : Vin2
- 4 : SW2
- 5 : Vin3
- 6 : V+
- 7 : V<sub>OUT</sub>
- 8 : GND

NJM2535D  
NJM2535M  
NJM2535V



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NJM2535L

## ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+</sup>	+15	V
Power Dissipation	P <sub>D</sub>	(DIP-8) 500 (DMP-8) 300 (SIP-8) 800 (SSOP-8) 250	mW
Operating Temperature Range	T <sub>opr</sub>	-20~+75	°C
Storage Temperature Range	T <sub>stg</sub>	-40~+125	°C

## ■ ELECTRICAL CHARACTERISTICS

(V<sup>+</sup>=5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V <sup>+</sup>		+4.5	—	+13.0	V
Supply Current	I <sub>CC</sub>		—	3.6	4.6	mA
Frequency Characteristics	G <sub>f</sub>	V <sub>IN</sub> =2V <sub>pp</sub> , V <sub>O</sub> =10MHz/100kHz	-1.0	0	+1.0	dB
Voltage Gain	G <sub>v</sub>	V <sub>IN</sub> =2V <sub>pp</sub> , 100kHz	-0.5	0	+0.5	dB
Differential Gain	DG	V <sub>IN</sub> =2V <sub>pp</sub> , Standard staircase signal, APL=50%	—	0	3.0	%
Differential Phase	DP	V <sub>IN</sub> =2V <sub>pp</sub> , Standard staircase signal, APL=50%	—	0	3.0	deg
Output Offset Voltage	V <sub>off</sub>		-30	0	+30	mV
Crosstalk	CT	V <sub>IN</sub> =2V <sub>pp</sub> , 4.3MHz	—	-70	-60	dB
Switching Voltage	V <sub>CH</sub>		2.4	—	—	V
	V <sub>CL</sub>		—	—	0.8	V
Input Impedance	R <sub>I</sub>		—	30	—	kΩ
Output Impedance	R <sub>O</sub>		—	25	—	Ω
Input Bias Voltage	V <sub>IN</sub>		—	2.5	—	V

## ■ INPUT CONTROL SIGNAL-OUTPUT SIGNAL

SW1	SW2	OUTPUT SIGNAL
L	L	V <sub>IN1</sub>
H	L	V <sub>IN2</sub>
L/H	H	V <sub>IN3</sub>

■ TEST CIRCUIT



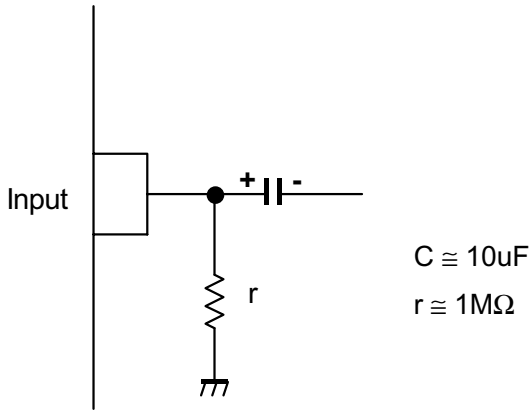
This IC requires  $1M\Omega$  resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



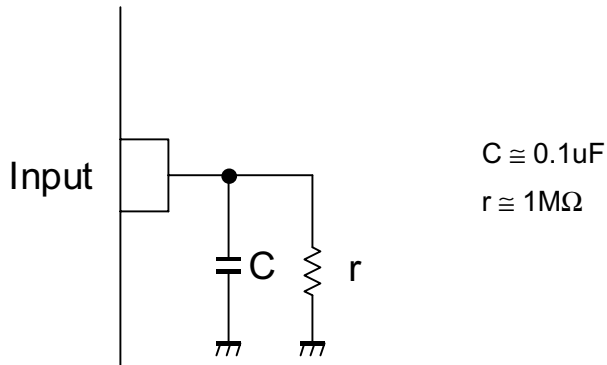
# NJM2535

## ■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.



## ■ TYPICAL CHARACTERISTICS

### Supply Current vs. Operating Voltage



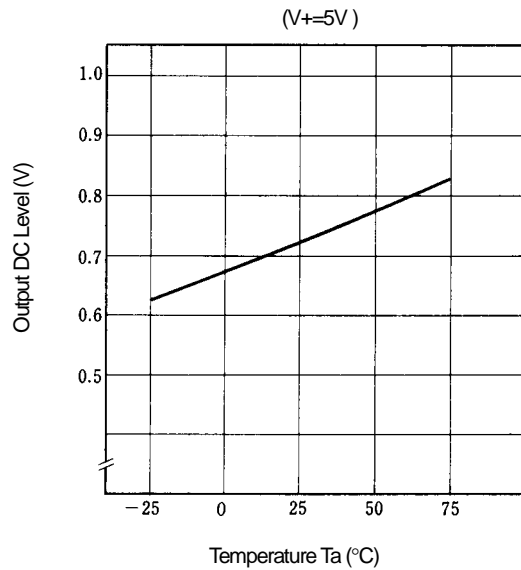
### Supply Current vs. Temperature



### Input DC level vs. Temperature



### Output DC level vs. Temperature



### Voltage Gain vs. Frequency



### Voltage Gain vs. $R_L$



## ■ TYPICAL CHARACTERISTICS

### Differential Gain vs. $R_L$



### Differential Phase vs. $R_L$



### Differential Gain vs. APL



### Differential Phase vs. APL



### Differential Gain vs. Operating Voltage

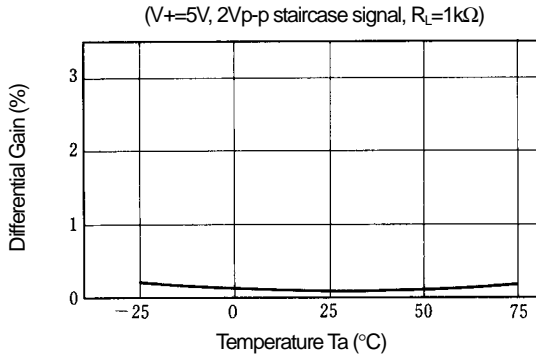


### Differential Phase vs. Operating Voltage

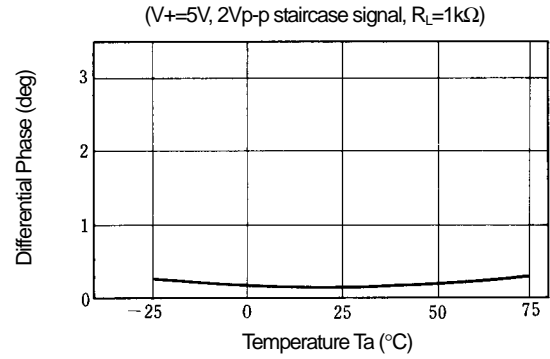


## ■ TYPICAL CHARACTERISTICS

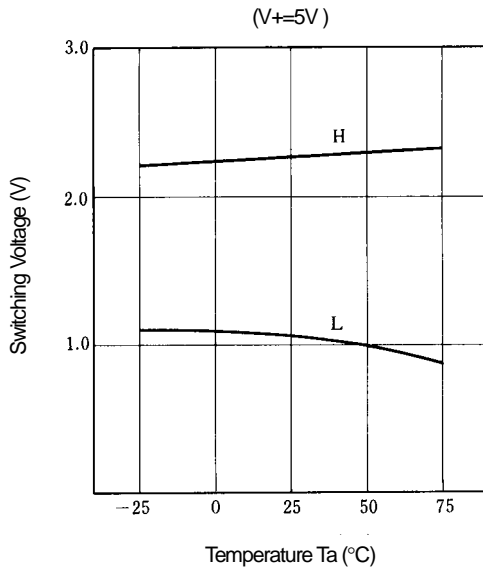
### Differential Gain vs. Temperature



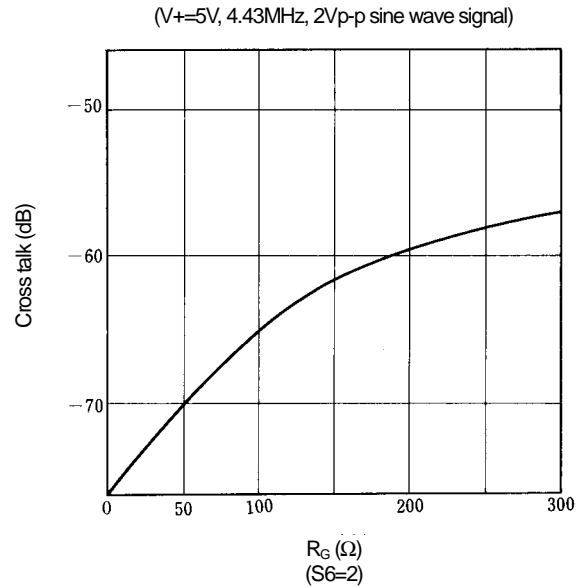
### Differential Phase vs. Temperature



### Switching Voltage vs. Temperature



### Cross talk vs. $R_G$



**[CAUTION]**

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