3-INPUT 1-OUTPUT VIDEO SWITCH

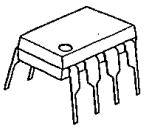
■ GENERAL DESCRIPTION

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

■ FEATURES

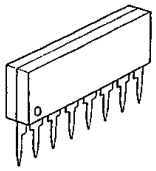
- Operating Voltage (+4.5V～+13V)
- Low Operating Current (4.6mA MAX)
- Crosstalk (−70dB)
- 3-Input, 1-Output
- Bipolar Technology
- Package Outline DIP8, DMP8, SIP8, SSOP8

■ PACKAGE OUTLINE



NJM2535D

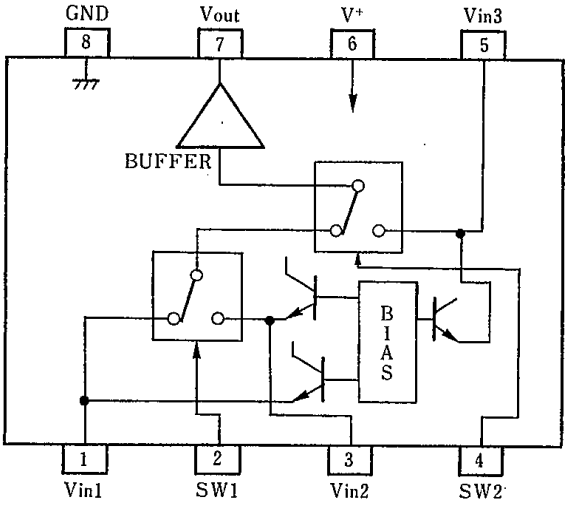
NJM2535M



NJM2535L

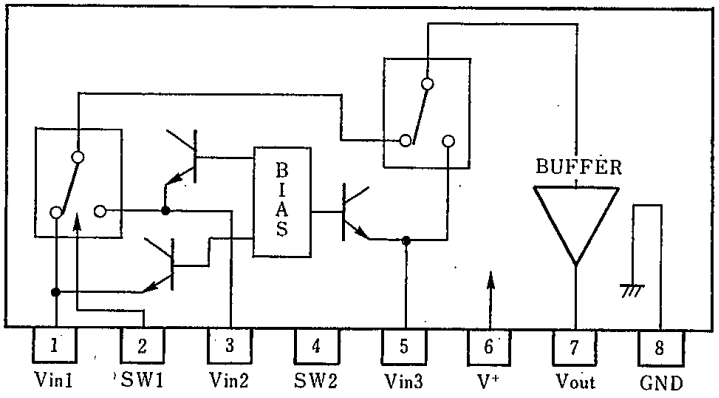
NJM2535V

■ PIN CONFIGURATION



PIN FUNCTION
1 : Vin1
2 : SW1
3 : Vin2
4 : SW2
5 : Vin3
6 : V+
7 : VOUT
8 : GND

NJM2535D
NJM2535M
NJM2535V



PIN FUNCTION
1 : Vin1
2 : SW1
3 : Vin2
4 : SW2
5 : Vin3
6 : V+
7 : VOUT
8 : GND

NJM2535L

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	+15	V
Power Dissipation	P_D	(DIP-8) 500 (DMP-8) 300 (SIP-8) 800 (SSOP-8) 250	mW
Operating Temperature Range	T_{opr}	−20～+75	℃
Storage Temperature Range	T_{stg}	−40～+125	℃

■ ELECTRICAL CHARACTERISTICS

(V^+=5V, Ta=25℃)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V^+		+4.5	−	+13.0	V
Supply Current	I_{CC}		−	3.6	4.6	mA
Frequency Characteristics	Gf	V_{IN}=2Vpp, Vo=10MHz/100kHz	−1.0	0	+1.0	dB
Voltage Gain	G_V	V_{IN}=2Vpp, 100kHz	−0.5	0	+0.5	dB
Differential Gain	DG	V_{IN}=2Vpp, Standard staircase signal, APL=50%	−	0	3.0	%
Differential Phase	DP	V_{IN}=2Vpp, Standard staircase signal, APL=50%	−	0	3.0	deg
Output Offset Voltage	V_{off}		−30	0	+30	mV
Crosstalk	CT	V_{IN}=2Vpp, 4.3MHz	−	−70	−60	dB
Switching Voltage	V_{CH}		2.4	−	−	V
	V_{CL}		−	−	0.8	V
Input Impedance	R_I		−	30	−	kΩ
Output Impedance	R_o		−	25	−	Ω
Input Bias Voltage	V_{IN}		−	2.5	−	V

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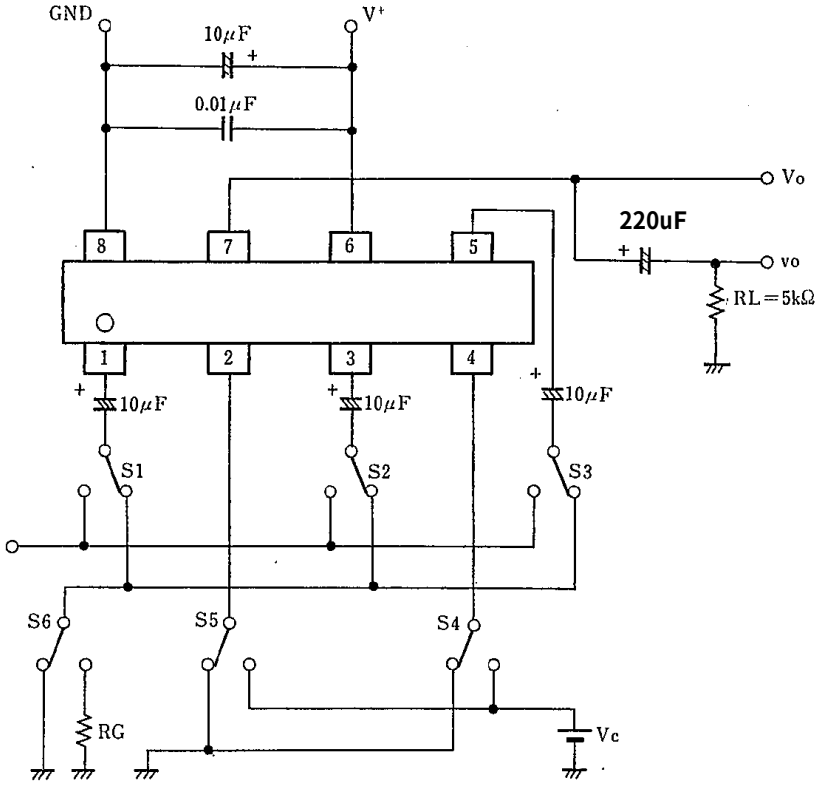
■ INPUT CONTROL SIGNAL-OUTPUT SIGNAL

SW1	SW2	OUTPUT SIGNAL
L	L	V_{IN}1
H	L	V_{IN}2
L/H	H	V_{IN}3

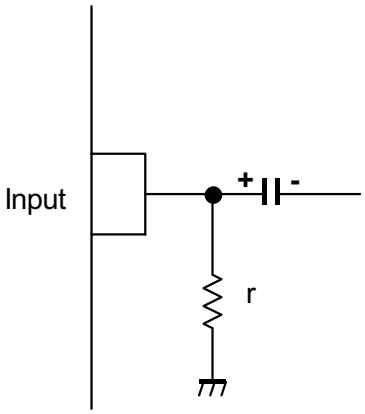
■ TEST CIRCUIT



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

■APPLICATION

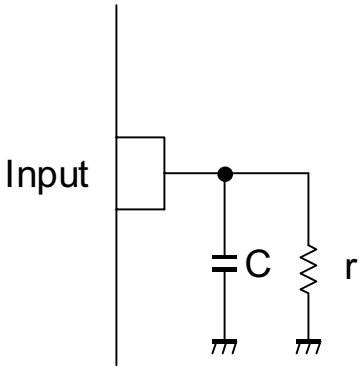
This IC requires 1MΩ resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



C ≅ 10uF

r ≅ 1MΩ

This IC requires 0.1uF capacitor between INPUT and GND, 1MΩ resistance between INPUT and GND for clamp type input at mute mode.



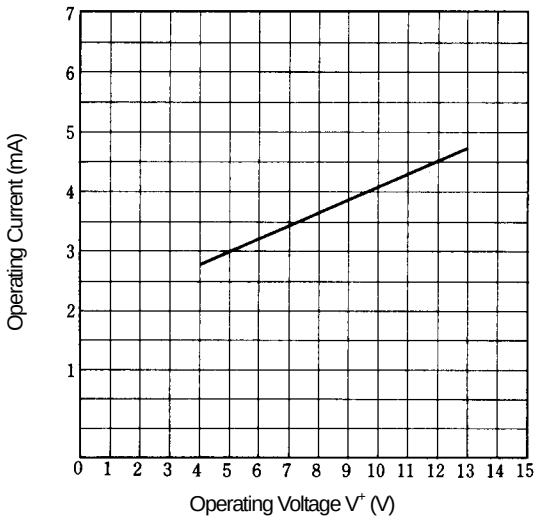
C ≅ 0.1uF

r ≅ 1MΩ

■ TYPICAL CHARACTERISTICS

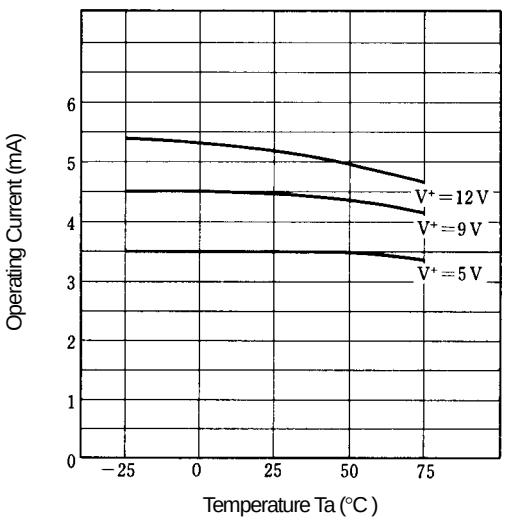
Supply Current vs. Operating Voltage

(ta=25°C)



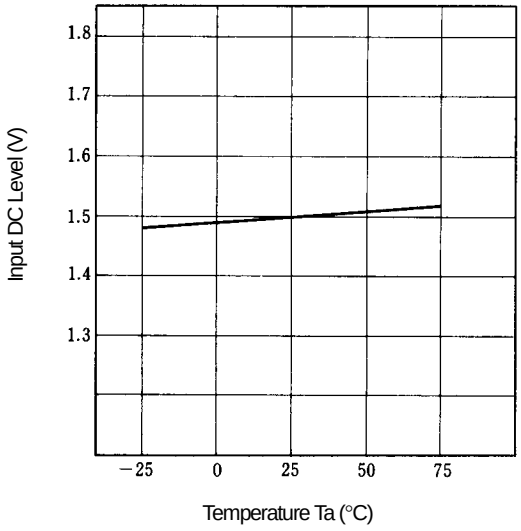
Supply Current vs. Temperature

(ta=25°C)



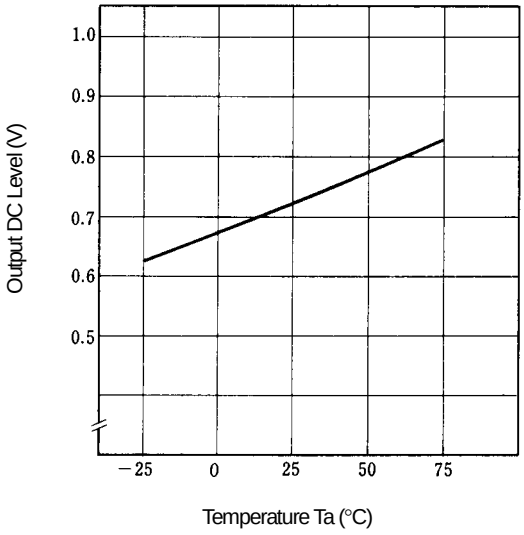
Input DC level vs. Temperature

(V+=5V)



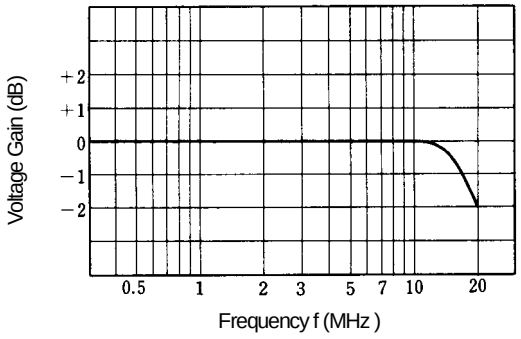
Output DC level vs. Temperature

(V+=5V)



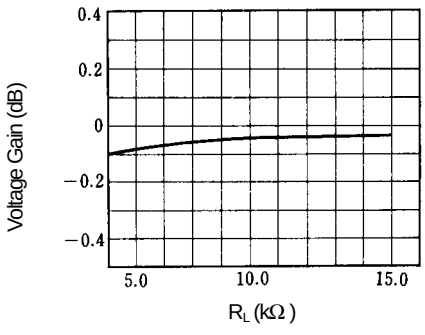
Voltage Gain vs. Frequency

(V+=5V, 2Vp-p sine wave signal, RL=5kΩ)



Voltage Gain vs R_L

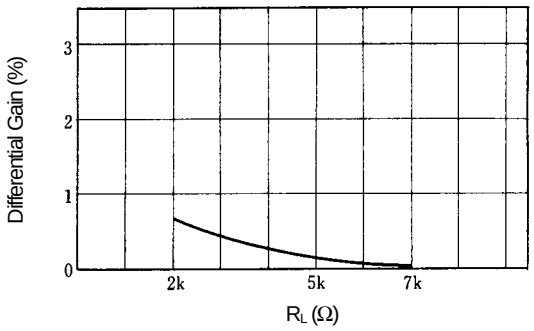
(V+=5V, 2Vp-p sine wave signal)



■ TYPICAL CHARACTERISTICS

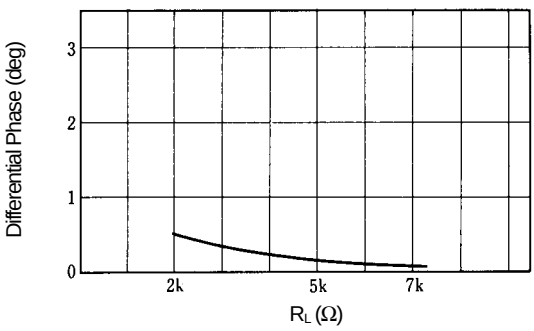
Differential Gain vs. R_L

(V+=5V, 2Vp-p staircase signal)



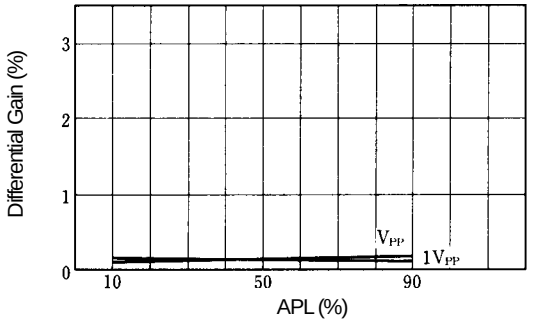
Differential Phase vs. R_L

(V+=5V, 2Vp-p staircase signal)



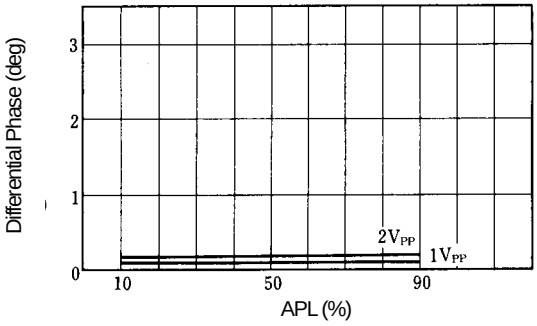
Differential Gain vs. APL

(V+=5V, 2Vp-p staircase signal, R_L=1kΩ)



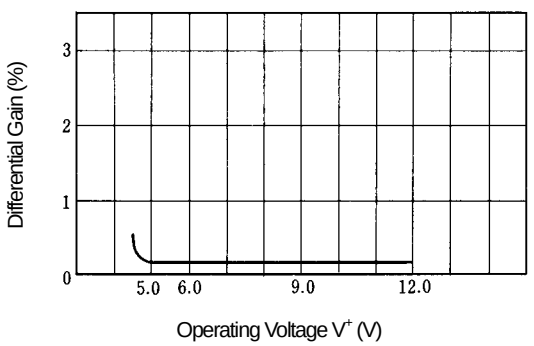
Differential Phase vs. APL

(V+=5V, 2Vp-p staircase signal, R_L=1kΩ)



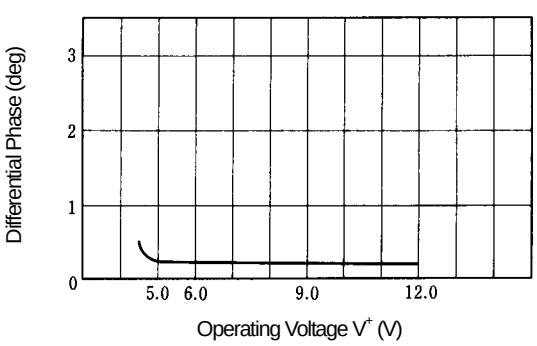
Differential Gain vs. Operating Voltage

(V+=5V, 2Vp-p staircase signal, R_L=1kΩ)



Differential Phase vs. Operating Voltage

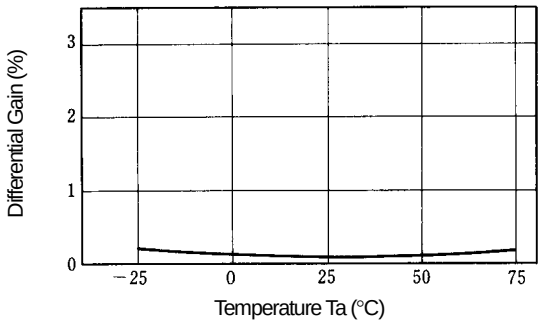
(V+=5V, 2Vp-p staircase signal, R_L=1kΩ)



■ TYPICAL CHARACTERISTICS

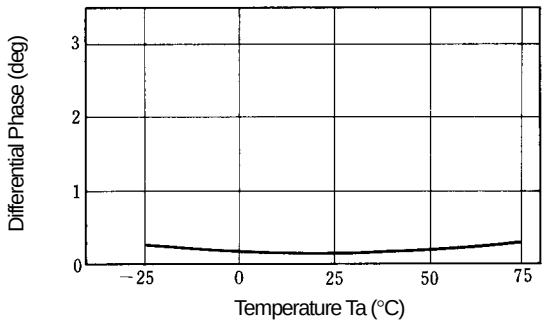
Differential Gain vs. Temperature

(V+=5V, 2Vp-p staircase signal, R_L=1kΩ)



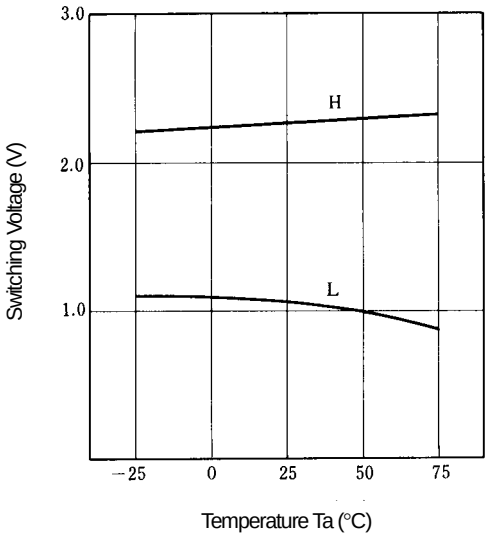
Differential Phase vs. Temperature

(V+=5V, 2Vp-p staircase signal, R_L=1kΩ)



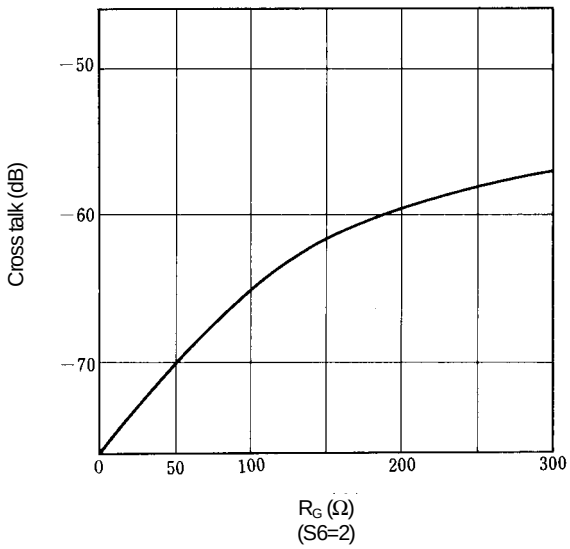
Switching Voltage vs. Temperature

(V+=5V)



Cross talk vs. R_G

(V+=5V, 4.43MHz, 2Vp-p sine wave signal)



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