

3-INPUT 1-OUTPUT VIDEO SWITCH

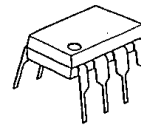
■ GENERAL DESCRIPTION

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

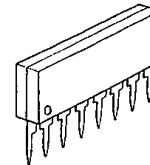
- Operating Voltage (+4.5V ~ +13V)
- Low Operating Current (4.6mA MAX)
- Crosstalk (-70dB)
- 3-Input, 1-Output
- Bipolar Technology
- Package Outline DIP8, DMP8, SIP8, SSOP8



NJM2535D



NJM2535M

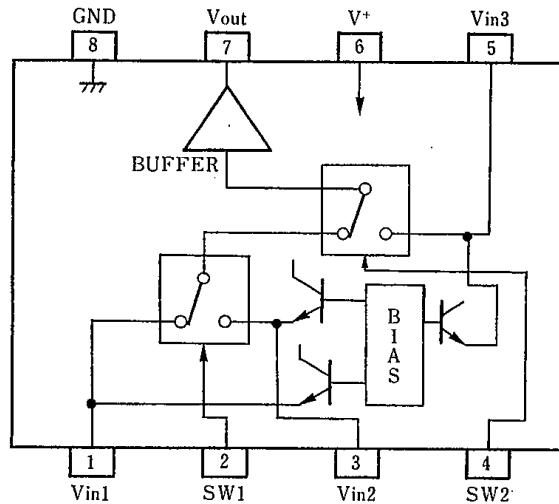


NJM2535L



NJM2535V

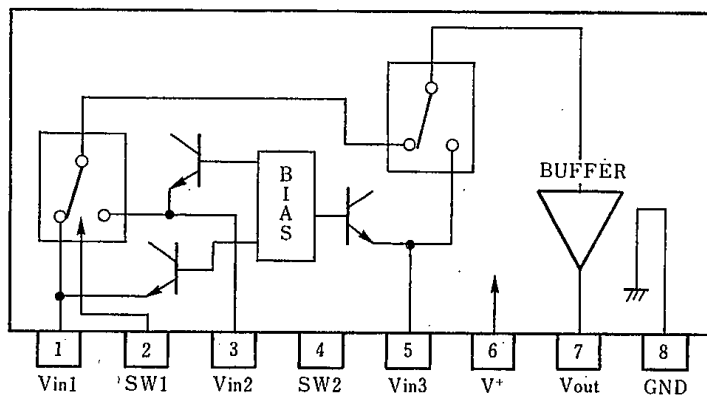
■ PIN CONFIGURATION



PIN FUNCTION

- 1 : Vin1
- 2 : SW1
- 3 : Vin2
- 4 : SW2
- 5 : Vin3
- 6 : V+
- 7 : V_{OUT}
- 8 : GND

NJM2535D
NJM2535M
NJM2535V



PIN FUNCTION

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NJM2535L

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| 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 | °C |
| Storage Temperature Range | T _{stg} | -40~+125 | °C |

■ ELECTRICAL CHARACTERISTICS

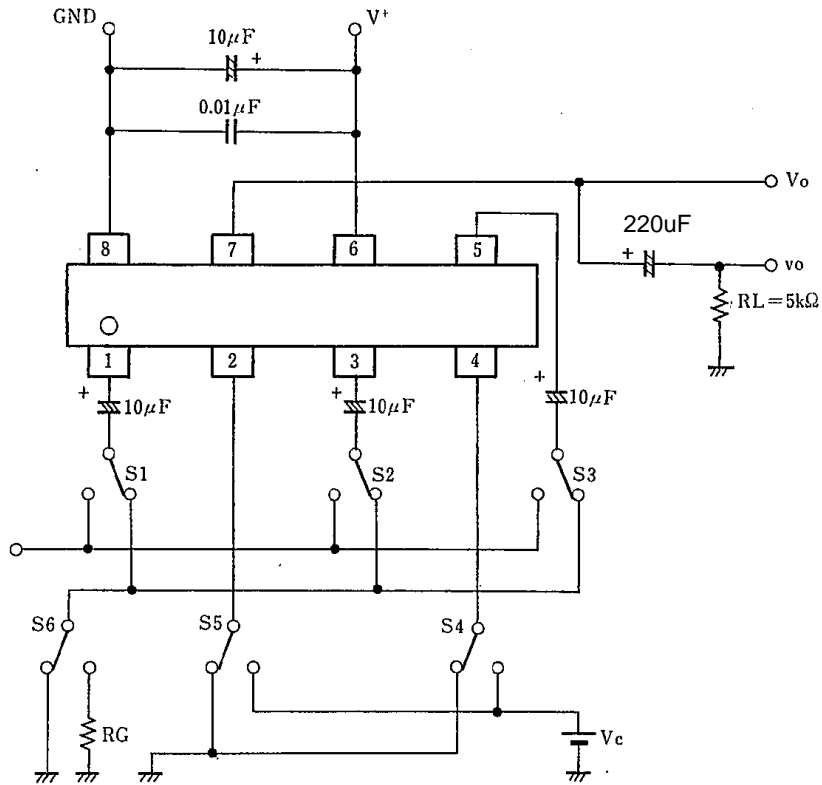
(V⁺=5V, Ta=25°C)

| 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 | G _f | V _{IN} =2V _{pp} , V _O =10MHz/100kHz | -1.0 | 0 | +1.0 | dB |
| Voltage Gain | G _v | V _{IN} =2V _{pp} , 100kHz | -0.5 | 0 | +0.5 | dB |
| Differential Gain | DG | V _{IN} =2V _{pp} , Standard staircase signal, APL=50% | — | 0 | 3.0 | % |
| Differential Phase | DP | V _{IN} =2V _{pp} , Standard staircase signal, APL=50% | — | 0 | 3.0 | deg |
| Output Offset Voltage | V _{off} | | -30 | 0 | +30 | mV |
| Crosstalk | CT | V _{IN} =2V _{pp} , 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 |

■ INPUT CONTROL SIGNAL-OUTPUT SIGNAL

| SW1 | SW2 | OUTPUT SIGNAL |
|-----|-----|------------------|
| L | L | V _{IN1} |
| H | L | V _{IN2} |
| L/H | H | V _{IN3} |

■ TEST CIRCUIT



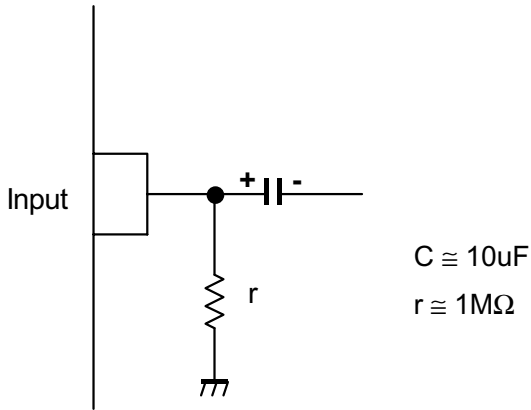
This IC requires $1M\Omega$ resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



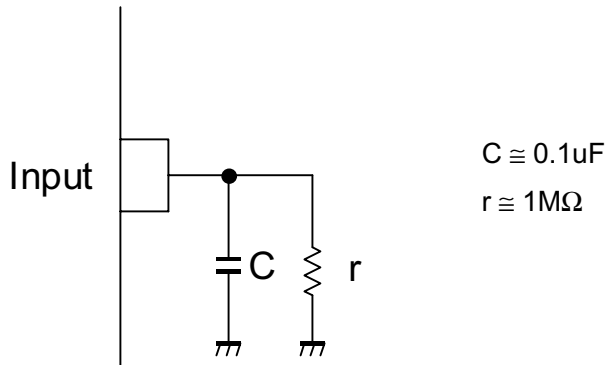
NJM2535

■APPLICATION

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

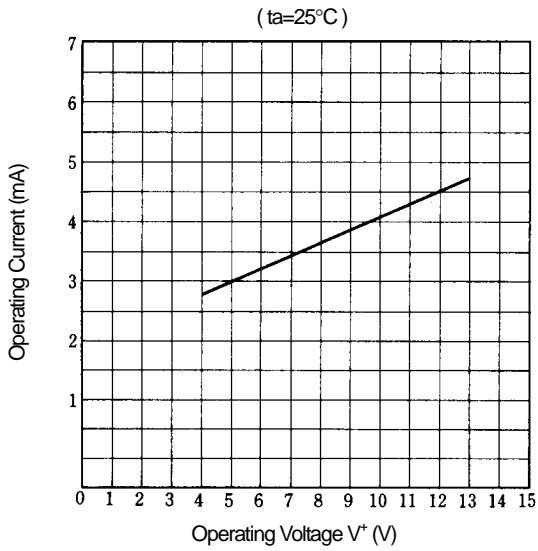


This IC requires $0.1\mu\text{F}$ capacitor between INPUT and GND, $1M\Omega$ resistance between INPUT and GND for clamp type input at mute mode.

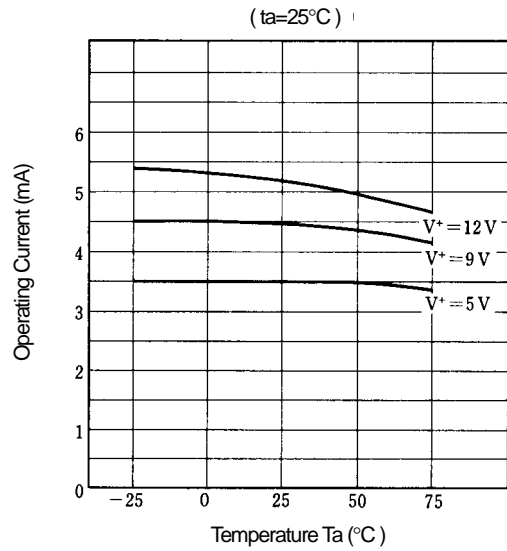


■ TYPICAL CHARACTERISTICS

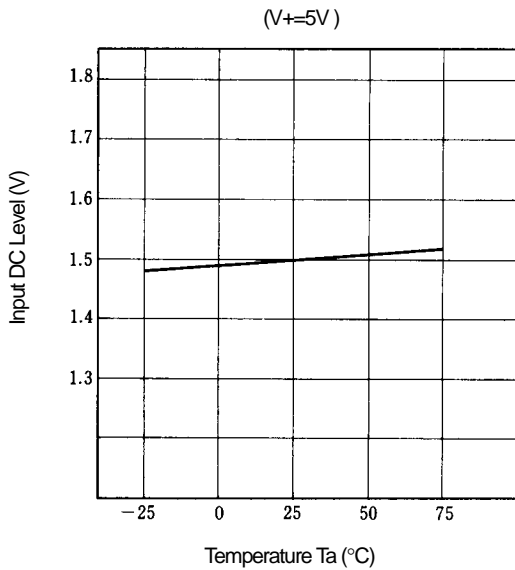
Supply Current vs. Operating Voltage



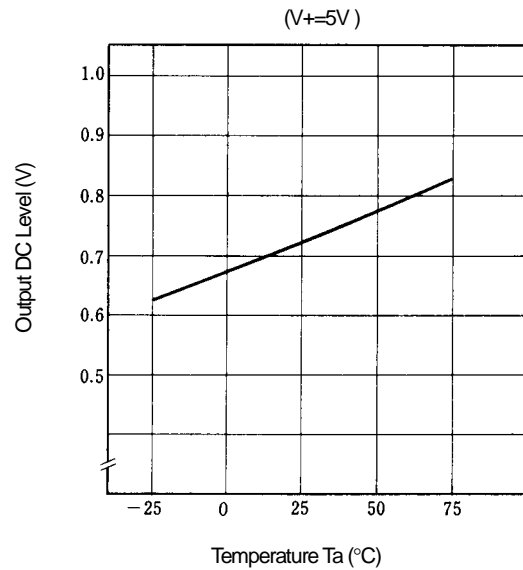
Supply Current vs. Temperature



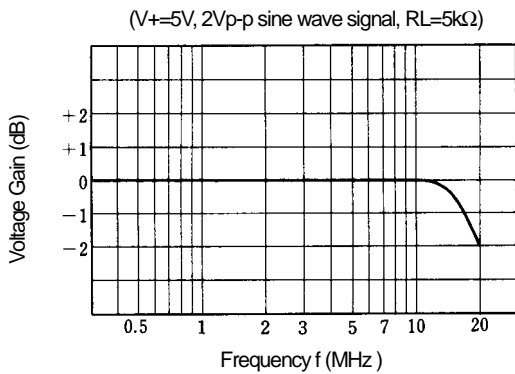
Input DC level vs. Temperature



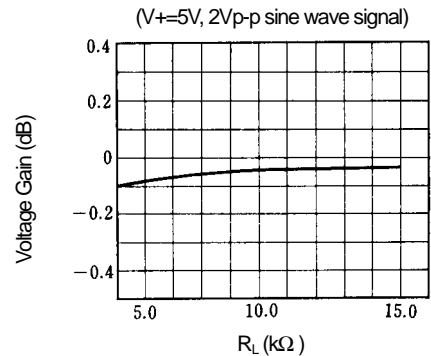
Output DC level vs. Temperature



Voltage Gain vs. Frequency

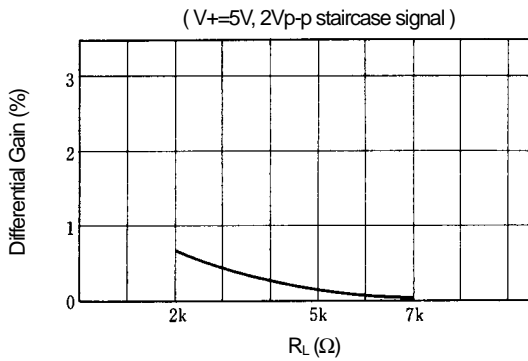


Voltage Gain vs. R_L

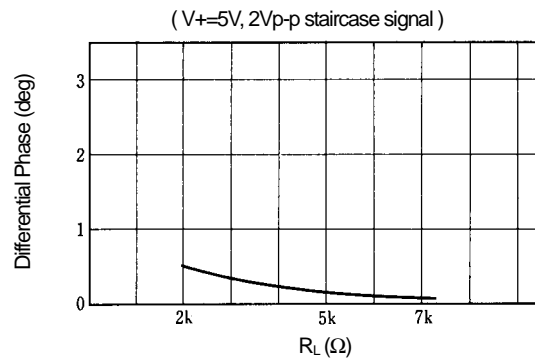


■ TYPICAL CHARACTERISTICS

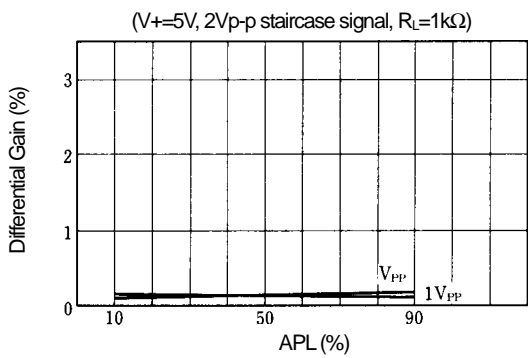
Differential Gain vs. R_L



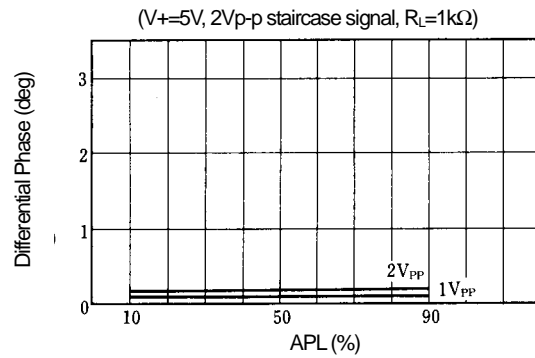
Differential Phase vs. R_L



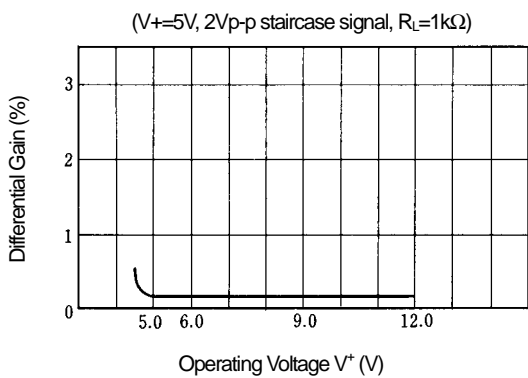
Differential Gain vs. APL



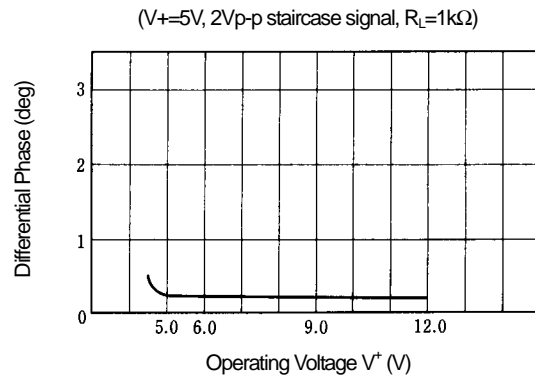
Differential Phase vs. APL



Differential Gain vs. Operating Voltage

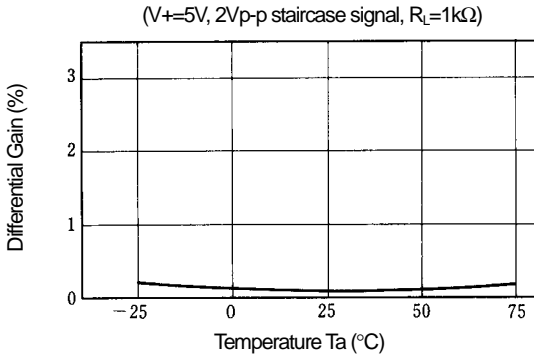


Differential Phase vs. Operating Voltage

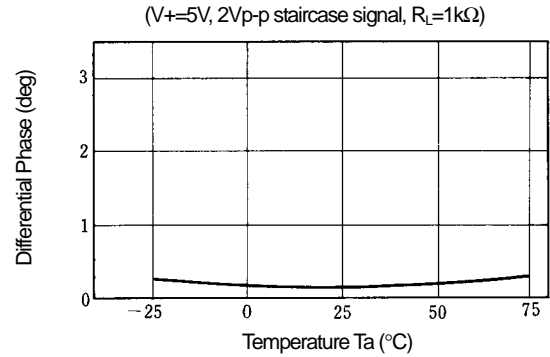


■ TYPICAL CHARACTERISTICS

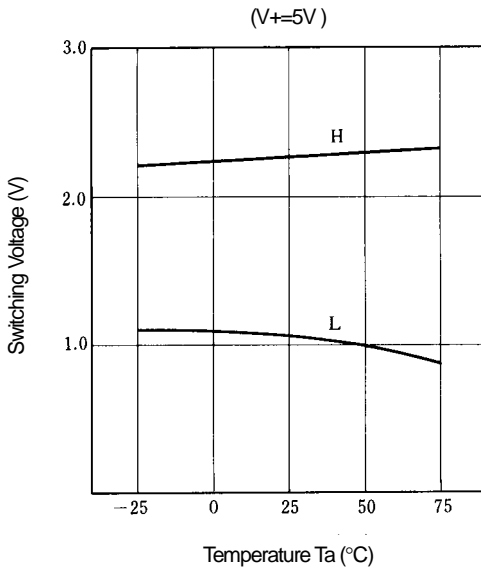
Differential Gain vs. Temperature



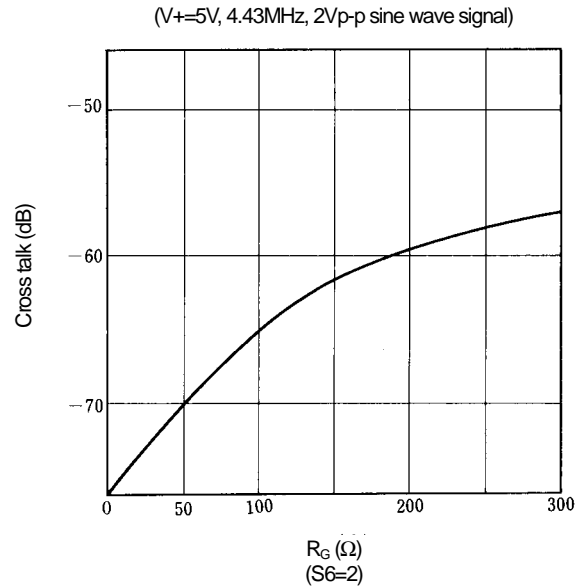
Differential Phase vs. Temperature



Switching Voltage vs. Temperature



Cross talk vs. R_G



[CAUTION]

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