

## 3-INPUT VIDEO SUPER IMPOSER WITH 6dB AMPLIFIER

### ■ GENERAL DESCRIPTION

**NJM2265** is 3-input, 1-output video switch with 6dB amplifier. Two inputs are provided with sink chip clamp function which adjust the DC level of video signal. The other input of transistor open base can make control of luminance signal. This video switch can be connected to TV monitor directly, as it has 6dB amplifier circuit internally.

**NJM2265** is a high performance video switch which is operated with 5V supply voltage.

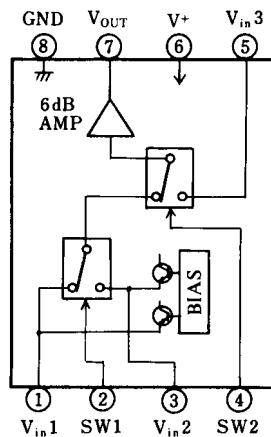
### ■ FEATURES

- Wide Operating Voltage (4.75V to 13V)
- 3 Input, 1 – Output
- Internal 6 dB Amplifier Circuit
- Internal Sink Chip Clamp Function ( $V_{IN1}$ ,  $V_{IN2}$ )
- Internal Luminance Signal Control Function ( $V_{IN3}$ )
- Crosstalk 65dB (at 4.43MHz)
- Package Outline DIP8, DMP8, SIP8
- Bipolar Technology

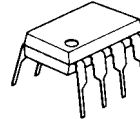
### ■ APPLICATIONS

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

### ■ BLOCK DIAGRAM



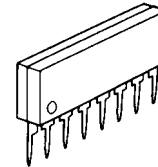
### ■ PACKAGE OUTLINE



**NJM2265D**



**NJM2265M**



**NJM2265L**

# NJM2265

## ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| PARAMETER                   | SYMBOL    | RATINGS                                | UNIT           |
|-----------------------------|-----------|--|----------------|
| Supply Voltage              | $V^+$     | 15                                     | V              |
| Power Dissipation           | $P_D$     | (DIP8) 500<br>(DMP8) 300<br>(SIP8) 800 | mW<br>mW<br>mW |
| Operating Temperature Range | $T_{opr}$ | -40 to +85                             | °C             |
| Storage Temperature Range   | $T_{stg}$ | -40 to +125                            | °C             |

## ■ ELECTRICAL CHARACTERISTICS

( $V^+=5V$ ,  $T_a=25\pm 2^\circ C$ )

| PARAMETERS                 | SYMBOLS  | TEST CONDITIONS                                  | MIN. | TYP. | MAX. | UNIT |
|----------------------------|----------|--|------|------|------|------|
| Recommended Supply Voltage | $V^+$    |  | 4.75 | -    | 13.0 | V    |
| Operating Current          | $I_{CC}$ | S=1=S2=S3=S4=S5=2                                | -    | 15   | 21.0 | mA   |
| Voltage Gain               | $G_V$    | $V_{in}=1.0V_{P-P}$ , 1MHz, $V_O / V_I$          | 5.7  | 6.2  | 6.7  | dB   |
| Frequency Characteristics  | $G_f$    | $V_{in}=1.0V_{P-P}$ , $V_O(5MHz) / V_I(1MHz)$    | -1.0 | 0    | +1.0 | dB   |
| Differential Gain          | DG       | $V_{in}=1.0V_{P-P}$ , Staircase, $R_L=1k\Omega$  | -    | 0.2  | -    | %    |
| Differential Phase         | DP       | $V_{in}=1.0V_{P-P}$ , Staircase, $R_L=1k\Omega$  | -    | 0.1  | -    | deg  |
| Output Offset Voltage      | $V_{OS}$ | S1=S2=S3=2, S4=2→1 $V_{in}=1.0V_{P-P}$ , 4.43MHz | -60  | 0    | +60  | mV   |
| Crosstalk                  | CT       | $V_O / V_I$ $V_{in3}$ Biased (note 2)            | -    | -6.5 | -    | dB   |
| Switch Change Voltage      | $V_{CH}$ | Switch High Level Voltage                        | 2.4  | -    | -    | V    |
| Switch High Level Voltage  | $V_{CL}$ | Switch Low Level Voltage                         | -    | -    | 0.8  | V    |

Note 1 Unless otherwise specified, tested with the following conditions.

a) S1=1, S2=S3=S4=S5=2 b) S2=S4=1, S1=S3=S5=2 c) S3=S5=1, S1=S2=1, S4=1 or 2

Note 2 Tested with the following conditions.

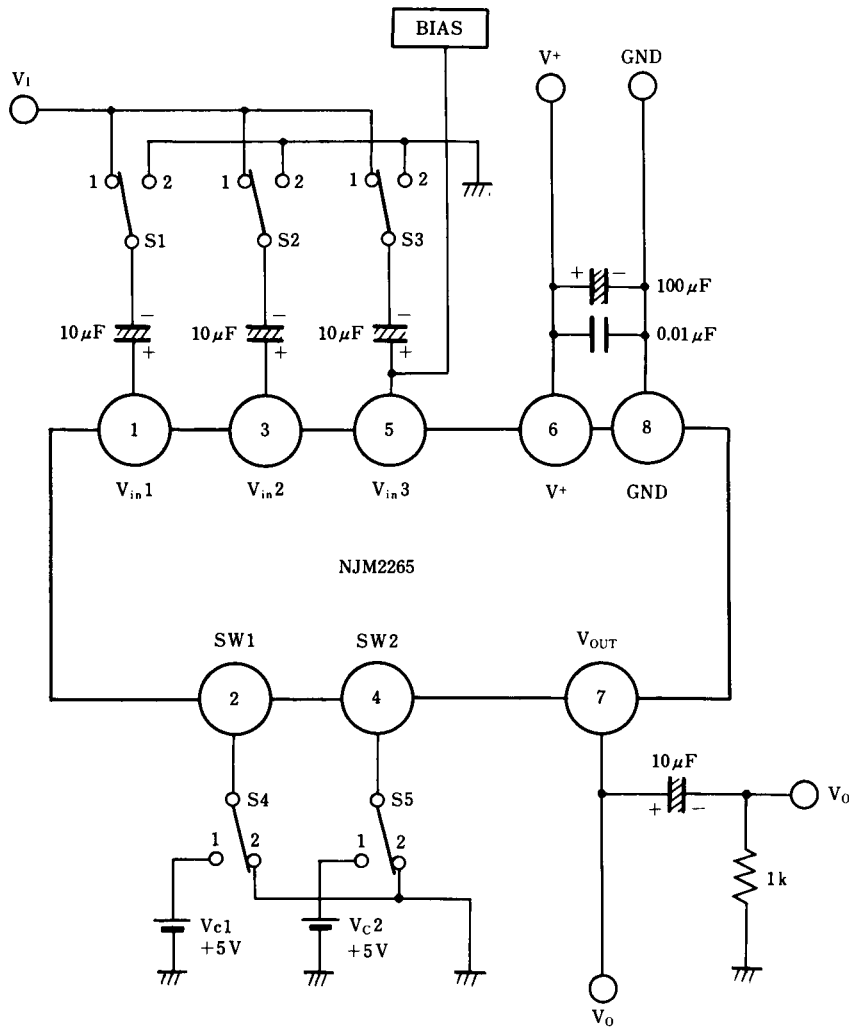
a) S1=S4=1, S2=S3=2, S5=1 and 2 b) S2=1, S1=S3=S4=2, S5=1 and 2 c) S3=1, S1=S2=S5=2, S4=1 and 2

Note 3 The Clamp Input Voltage of  $V_{in1}$  and  $V_{in2}$  is approximately  $(2.1 \times V^+) / 5$  (In case of  $V^+=5V$ , about 2.1V)

## ■ SWITCH CONTROL SIGNAL-OUTPUT SIGNAL

| SW 1 | SW 2 | OUTPUT SIGNAL |
|------|------|---------------|
| L    | L    | $V_{in1}$     |
| H    | L    | $V_{in2}$     |
| L/H  | H    | $V_{in3}$     |

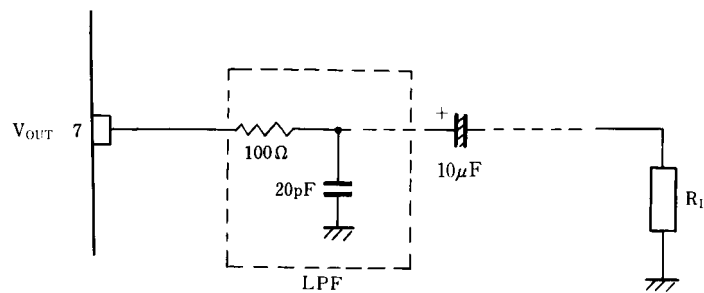
## ■ TEST CIRCUIT



## ■ APPLICATION

### Oscillation Prevention

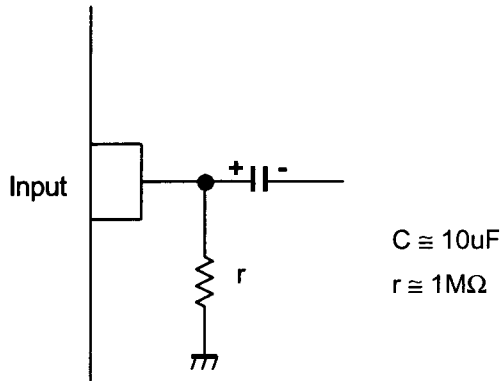
It is much effective to insert LPF (Cutoff Frequency 70MHz)  
under light loading conditions ( $R_L \gg 1k\Omega$ )



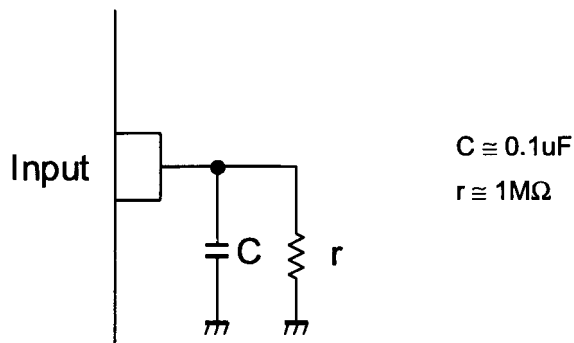
# NJM2265

## ■ APPLICATION

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



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



**[CAUTION]**

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