

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

### ■ GENERAL DESCRIPTION

**NJM2266** is 3-input, 1-output video switch with 6dB amplifier. One input is 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. **NJM2266** is a high performance video switch with is operated 4.75V supply voltage.

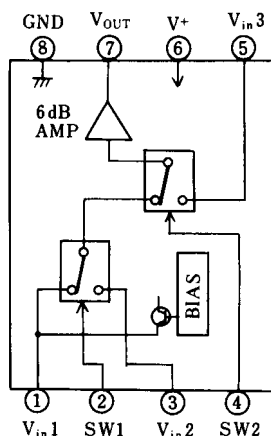
### ■ FEATURES

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

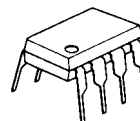
### ■ APPLICATIONS

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

### ■ BLOCK DIAGRAM



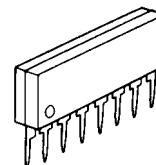
### ■ PACKAGE OUTLINE



**NJM2266D**



**NJM2266M**



**NJM2266L**

## ■ 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

( $V^+=5V$ ,  $T_a=25\pm2^\circ C$ )

| 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  | $G_f$    | $V_{in}=1.0V_{P-P}$ , $V_O(5MHz) / V_O(1MHz)$       | -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  |
| Crosstalk                  | CT       | $V_O / V_i$ $V_{in2}$ , $V_{in3}$ - Biased (Note 2) |      | -65  |      | dB   |
| Switch Change Voltage      | $V_{CH}$ | Switch High Level Voltage                           | 2.4  | -    | -    | V    |
|                            | $V_{CL}$ | 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)  $S3=S5=1$ ,  $S1=S2=1$ ,  $S4=1$  and 2

Note 2) Tested with the following conditions.

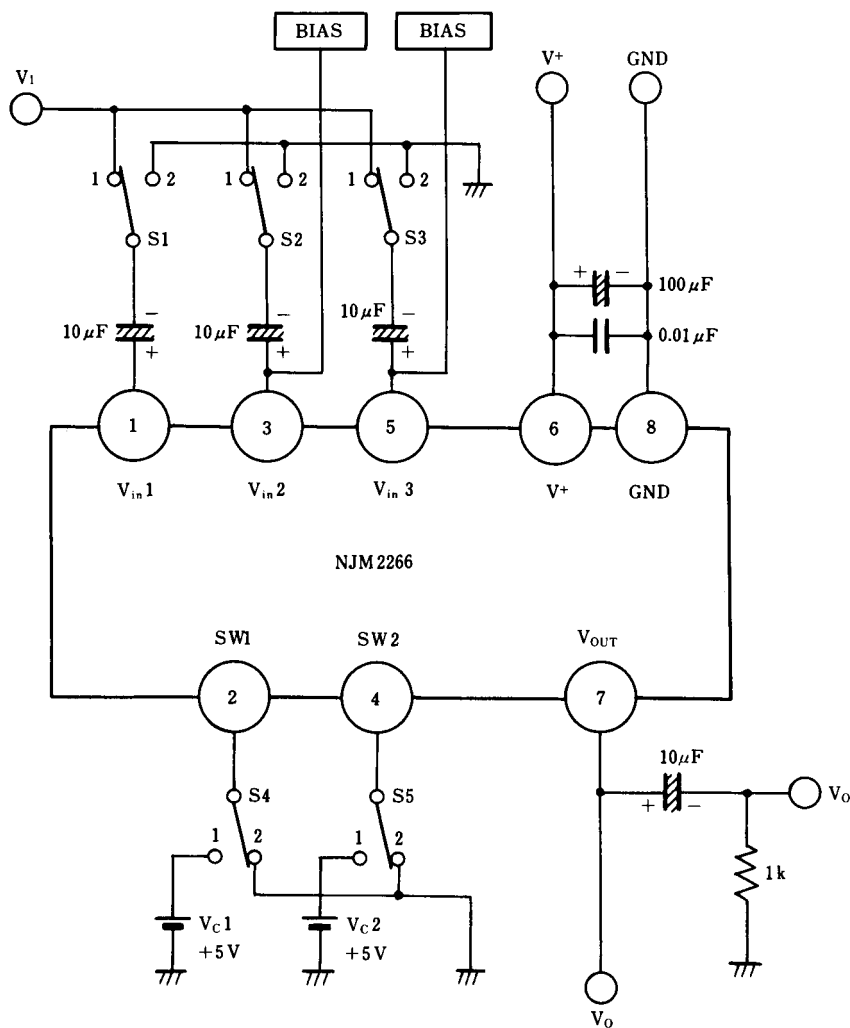
a)  $S1=S4=1$ ,  $S2=S3=2$ ,  $S5=1$  and 2 b)  $S2=1$ ,  $S1=S3=S4=2$ ,  $S5=1$  and 2 c)  $S3=1$ ,  $S1=S2=S5=2$ ,  $S4=1$  and 2

Note 3) The clamp Input Voltage of  $V_{in1}$  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    | $V_{in3}$     |

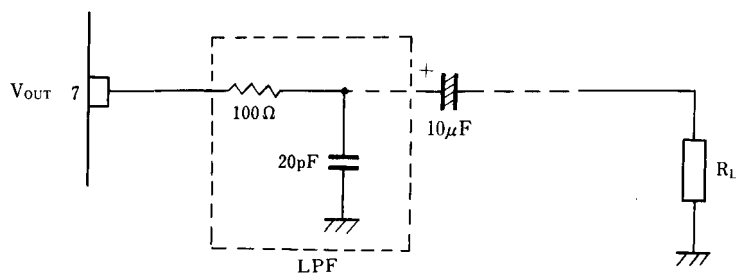
## ■ TEST CIRCUIT



## ■ APPLICATION

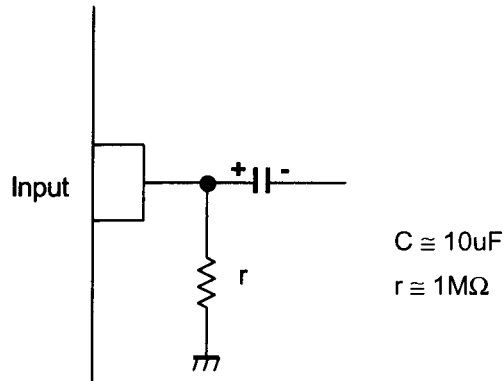
### Oscillation Prevention

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

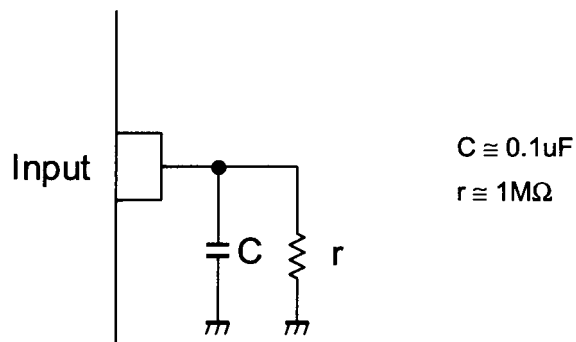


## ■ APPLICATION

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.



### [CAUTION]

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.

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