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New Japan Radio Co.,Ltd.

www.njr.com

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.

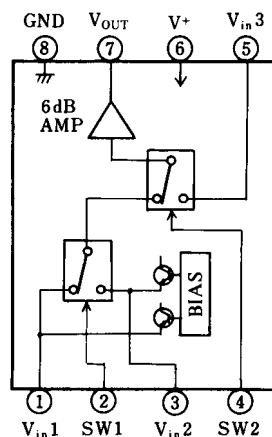
■ FEATURES

- 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

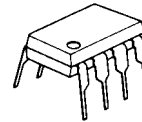
■ APPLICATIONS

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

■ BLOCK DIAGRAM



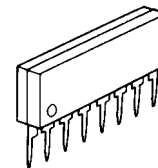
■ PACKAGE OUTLINE



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 (DMP8) 300 (SIP8) 800	mW mW 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.

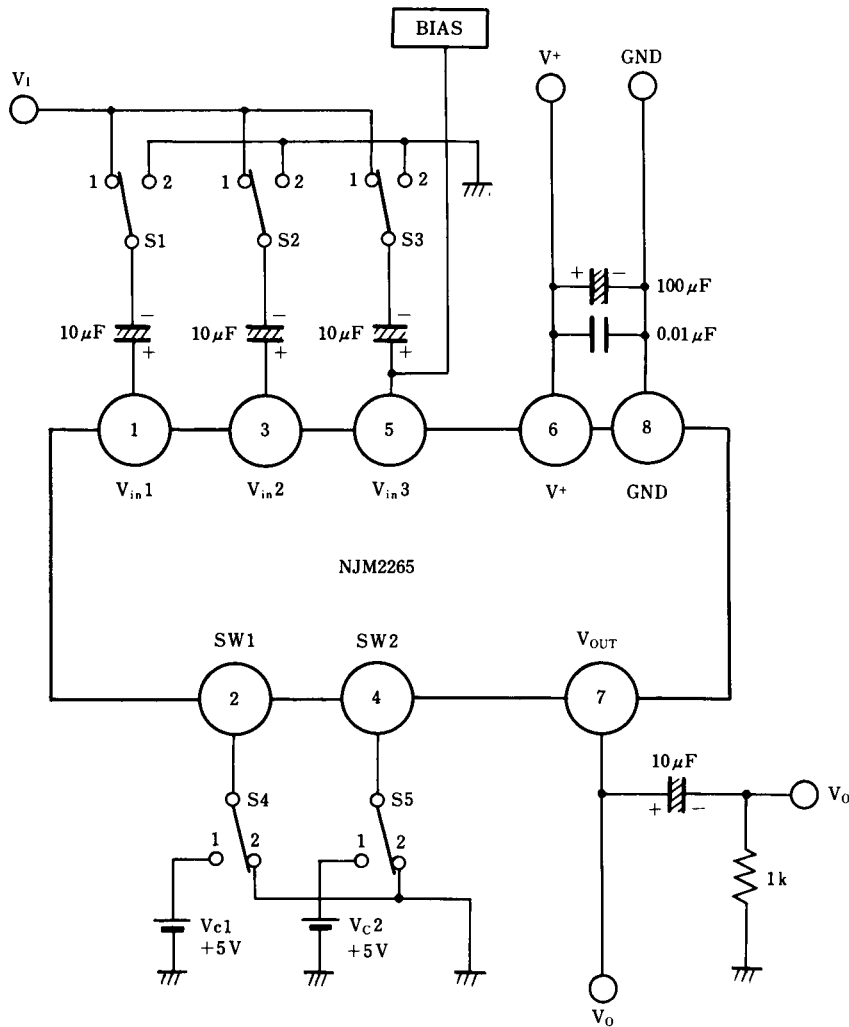
a) S1=S4=1, S2=S3=2, S5=1 and 2 b) S2=1, S1=S3=S4=2, S5=1 and 2 c) S3=1, S1=S2=S5=2, S4=1 and 2

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}

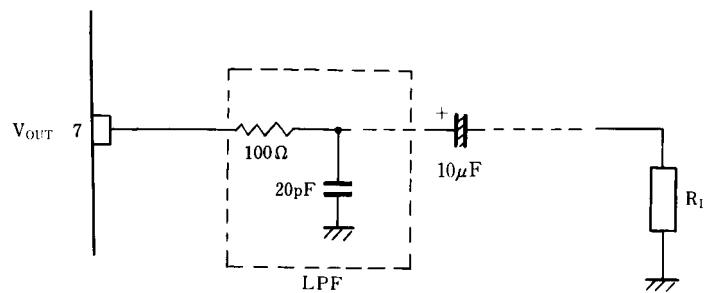
■ TEST CIRCUIT



■ APPLICATION

Oscillation Prevention

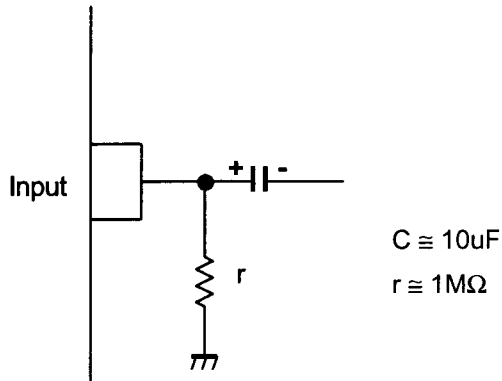
It is much effective to insert LPF (Cutoff Frequency 70MHz)
under light loading conditions ($R_L \gg 1k\Omega$)



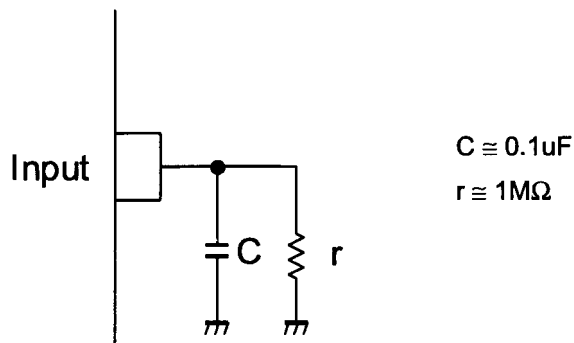
NJM2265

■ APPLICATION

This IC requires $1M\Omega$ 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.



[CAUTION]

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