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3 - INPUT VIDEO SUPER IMPOSER WITH 75Ω DRIVER

■ GENERAL DESCRIPTION

NJM2264 is 3-input, 1-output video switch with 75Ω driver circuit. One input is provided with sink chip clamp function, which adjusts the DC level of video signal. The other two inputs of transistor open base can make control of luminance signal. This video switch can be connected to TV monitor directly, as it has 75Ω driver circuit internally.

NJM2264 is a high performance video switch which is operated with 5V supply voltage.

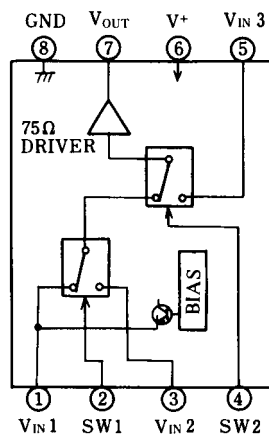
■ FEATURES

- Wide Operating Voltage (4.75V to 13V)
- 3 Input 1-Output
- Internal 75Ω Driver Circuit
- Internal Sink Chip Clamp Function (V_{IN1})
- Internal Luminance Signal Control Function (V_{IN2} , V_{IN3})
- Crosstalk 70dB(at 4.43MHz)
- Wide Operating Frequency Range 10MHz ($2V_{P-P}$ input)
- Package Outline DIP8, DMP8, SIP8
- Bipolar Technology

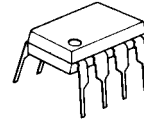
■ APPLICATIONS

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

■ BLOCK DIAGRAM



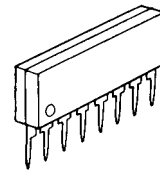
■ PACKAGE OUTLINE



NJM2264D



NJM2264M



NJM2264L

NJM2264

■ ABSOLUTE MAXIMUM RATINGS

($T_a=25^{\circ}\text{C}$)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	15	V
Power Dissipation	P_D	(DIP8) 500	mW
		(DMP8) 300	mW
		(SIP8) 800	mW
Operating Temperature Range	T_{opr}	-20 to +75	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-40 to +125	$^{\circ}\text{C}$

■ ELECTRICAL CHARACTERISTICS

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

PARAMETERS	SYMBOLS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Recommended Supply Voltage	V^+		4.75	-	13.0	V
Operating Current	I_{CC}	$S1 = S2 = S3 = S4 = S5 = 2$	-	16.5	23.0	mA
Voltage Gain	G_V	$V_{IN} = 2.0V_{P-P}$, 100kHz, V_O / V_I	-0.8	-0.3	+0.2	dB
Frequency Characteristics	G_f	$V_{IN} = 2.0V_{P-P}$, V_O (10MHz) / V_O (100kHz)	-1.0	0	+1.0	dB
Differential Gain	DG	$V_{IN} = 2.0V_{P-P}$, Staircase, $R_L = 150\Omega$	-	0.3	-	%
Differential Phase	DP	$V_{IN} = 2.0V_{P-P}$, Staircase, $R_L = 150\Omega$	-	0.3	-	deg
Crosstalk	CT	$V_I = 2.0V_{P-P}$, 4.43MHz	-	-	-	-
		V_O / V_I	-	-70	-	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.

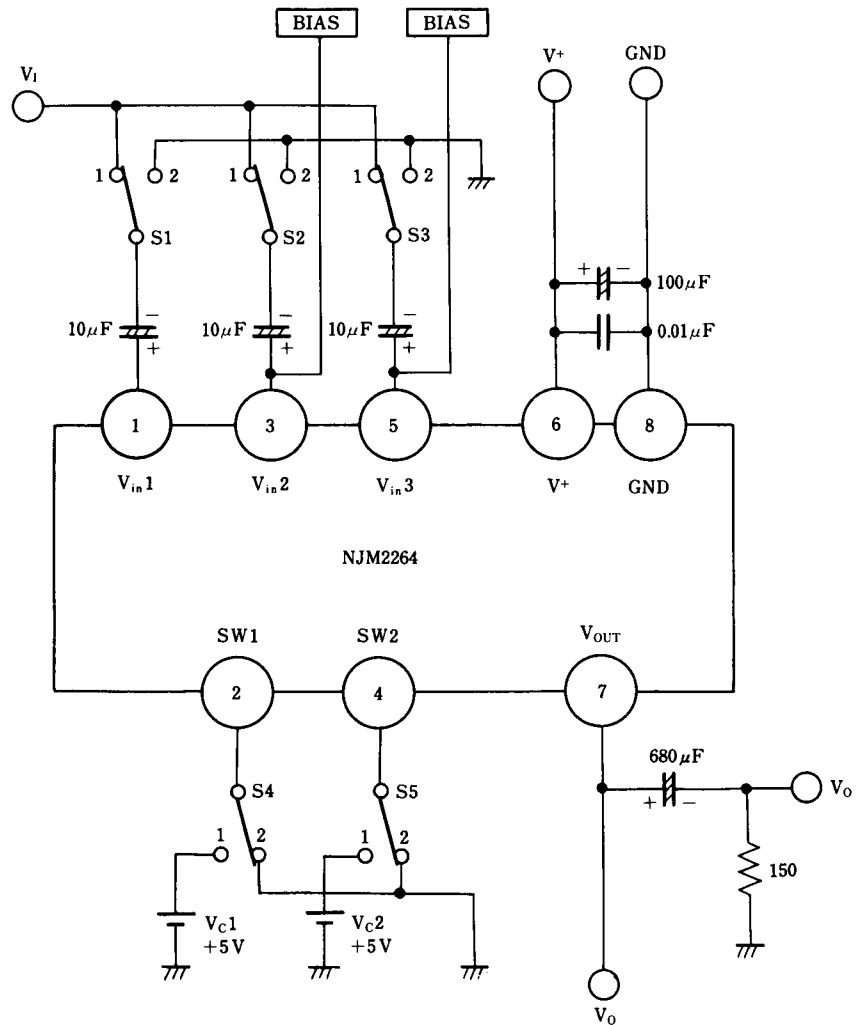
a) $S1 = S4 = 1$, $S2 = S3 = 2$, $S5 = 1$ and 2 b) $S2 = 1$, $S1 = S3 = S4 = 2$, $S5 = 1$ and 2 c) $S3 = 1$, $S1 = S2 = S5 = 2$, $S4 = 1$ and 2

Note 3) The Clamp Input Voltage of V_{in} is approximately $(2.0 \times V^+) / 5$ (In case of $V^+ = 5\text{V}$, about 2.0V).

■ SWITCH CONTROL SIGNAL - OUTPUT SIGNAL

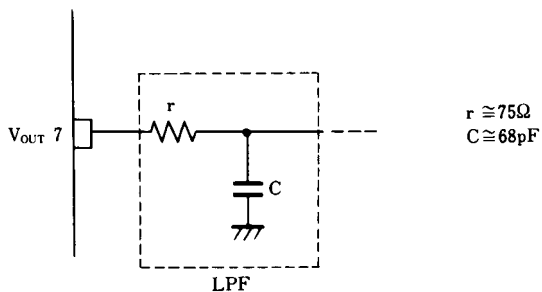
SW1	SW2	OUTPUT SIGNAL
L	L	V_{IN1}
H	L	V_{IN2}
L/H	H	V_{IN3}

■ TEST CIRCUIT



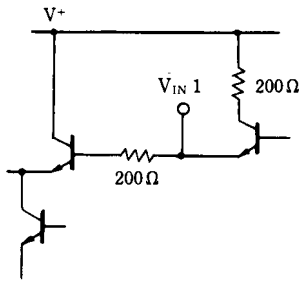
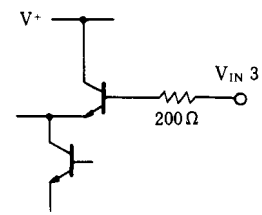
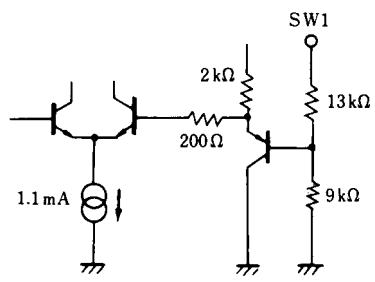
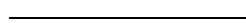
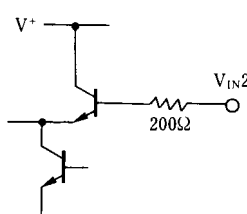
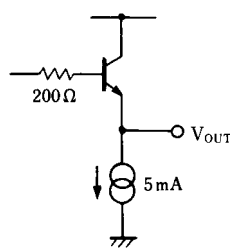
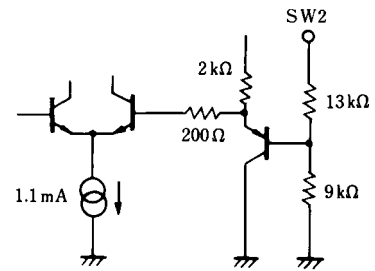

■ APPLICATION

Oscillation Prevention on light loading conditions
Recommended under circuit.



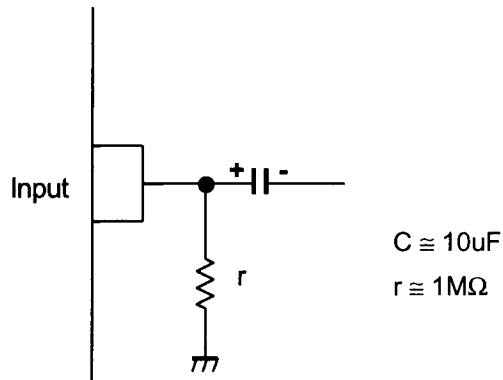
NJM2264

■ EQUIVALENT CIRCUIT

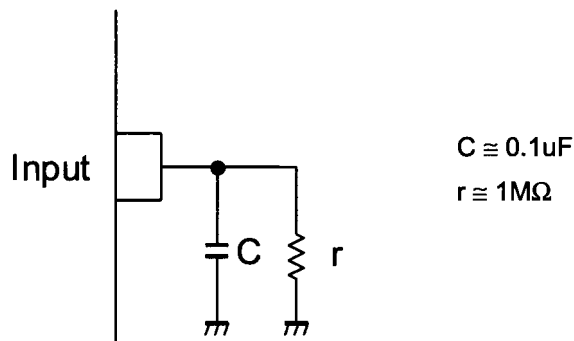
PIN NO.	PIN FUNCTION	INSIDE EQUIVALENT CIRCUIT	PIN NO.	PIN FUNCTION	INSIDE EQUIVALENT CIRCUIT
1	V _{IN1}		5	V _{IN3}	
2	SW1		6	V ⁺	
3	V _{IN2}		7	V _{OUT}	
4	SW2		8	GND	

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



[CAUTION]

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