

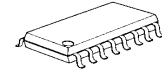
WIDE BAND 3 CIRCUITS VIDEO SWITCH

■ GENERAL DESCRIPTION

The **NJM2584A** is a wide band 2-Input 1-Output 3-Circuit video switch. It is suitable for Y, Pb, and Pr signal because frequency range is 50MHz.

The **NJM2584A** is suitable for LCD-TV, STB and other high quality AV systems.

■ PACKAGE OUTLINE

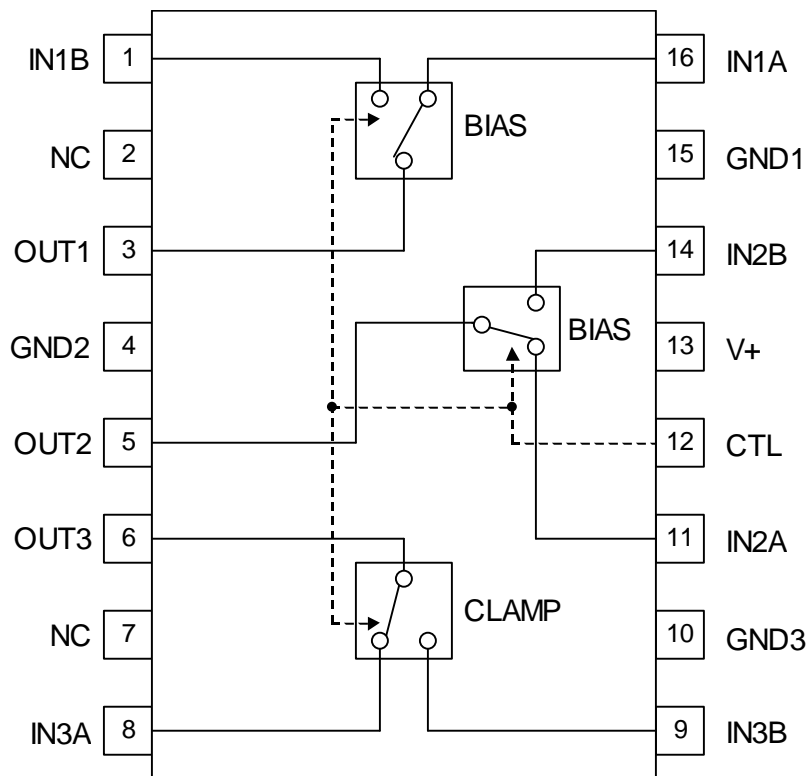


NJM2584AM

■ FEATURES

- Operating Voltage 4.5 to 9.0V
- Wide frequency range 0dB at 50MHz typ.
- Internal 2 input-1output 3-circuit video switch
- Input coupling capacitor is 1 μ F
- Operating Current 10mA typ.
- Bipolar Technology
- Package Outline DMP16

■ BLOCK DIAGRAM



NJM2584A

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETERS	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{cc}	10.0	V
Power Dissipation	P _D	(DMP) 300	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

■ ELECTRICAL CHARACTERISTICS (V_{cc}=5.0V, R_L=10kΩ, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I _{cc}	No signal	-	10.0	15.0	mA
Maximum input Voltage1	V _{im1}	BIAS input	3.2	3.5	-	Vp-p
Maximum input Voltage 2	V _{im2}	CLAMP input	2.4	2.6	-	Vp-p
Maximum Output Voltage 1	V _{om1}	BIAS input, Vin=1kHz, Sin signal, THD=1%,	3.2	3.5	-	Vp-p
Maximum Output Voltage 2	V _{om2}	CLAMP input, Vin=1kHz, Sin signal, THD=1%,	2.4	2.6	-	Vp-p
Voltage Gain	G _v	Vin=1MHz, 2.0Vp-p Sin signal	-0.5	0	0.5	dB
Differential Gain (Channel)	ΔG _{v1}	Vin=1MHz, 2.0Vp-p Sin signal	-0.2	0	0.2	dB
Differential Gain (Block)	ΔG _{vB}	Vin=1MHz, 2.0Vp-p Sin signal	-0.2	0	0.2	dB
Band Width	f		-	50	-	MHz
Frequency Characteristic	G _f	Vin=1MHz / 50MHz, 1.0Vp-p, Sin signal	-	0	-	dB
Channel Cross talk 1	CTI1	Vin=4.43MHz, 2.0Vp-p, Sin signal	-	-70	-60	dB
Channel Cross talk 2	CTI2	Vin=50MHz, 2.0Vp-p, Sin signal	-	-40	-	dB
Block Cross talk 1	CTB1	Vin=4.43MHz, 2.0Vp-p, Sin signal	-	-70	-60	dB
Block Cross talk 2	CTB2	Vin=50MHz, 2.0Vp-p, Sin signal	-	-40	-	dB
Differential Gain	DG	Vin=1.0Vpp 10step Video signal	-	0.3	-	%
Differential Phase	DP	Vin=1.0Vpp 10step Video signal	-	0.3	-	deg
S/N	SN _v	Vin=1.0Vpp, 100% White Video signal	-	+65	-	dB
Switch Change Voltage H Level	V _{thH}		2.0	-	V ⁺	V
Switch Change Voltage L Level	V _{thL}		0	-	0.6	V

■ MODE SWITCH FUNCTION

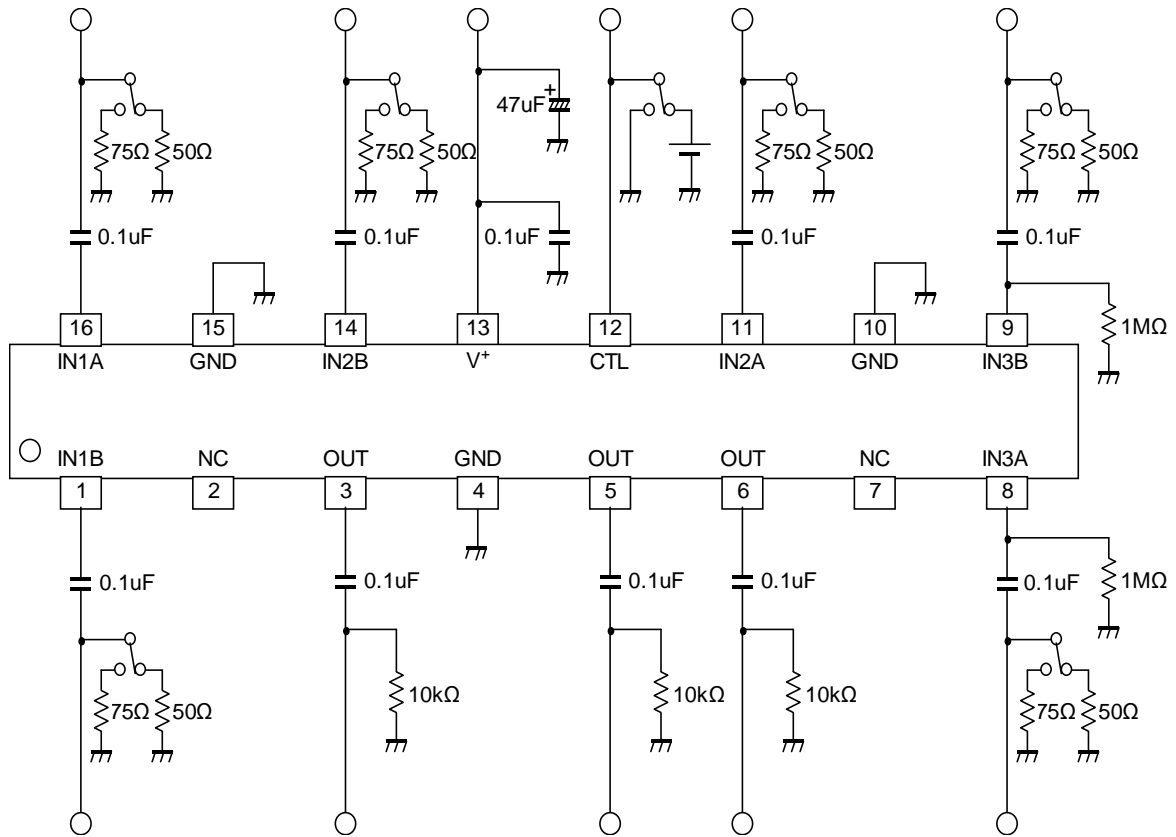
PIN	MODE	NOTES
Control	H	B channel output
	L	A channel output
	OPEN	A channel output

■ EQUIVALENT CIRCUIT (V+=5.0V)

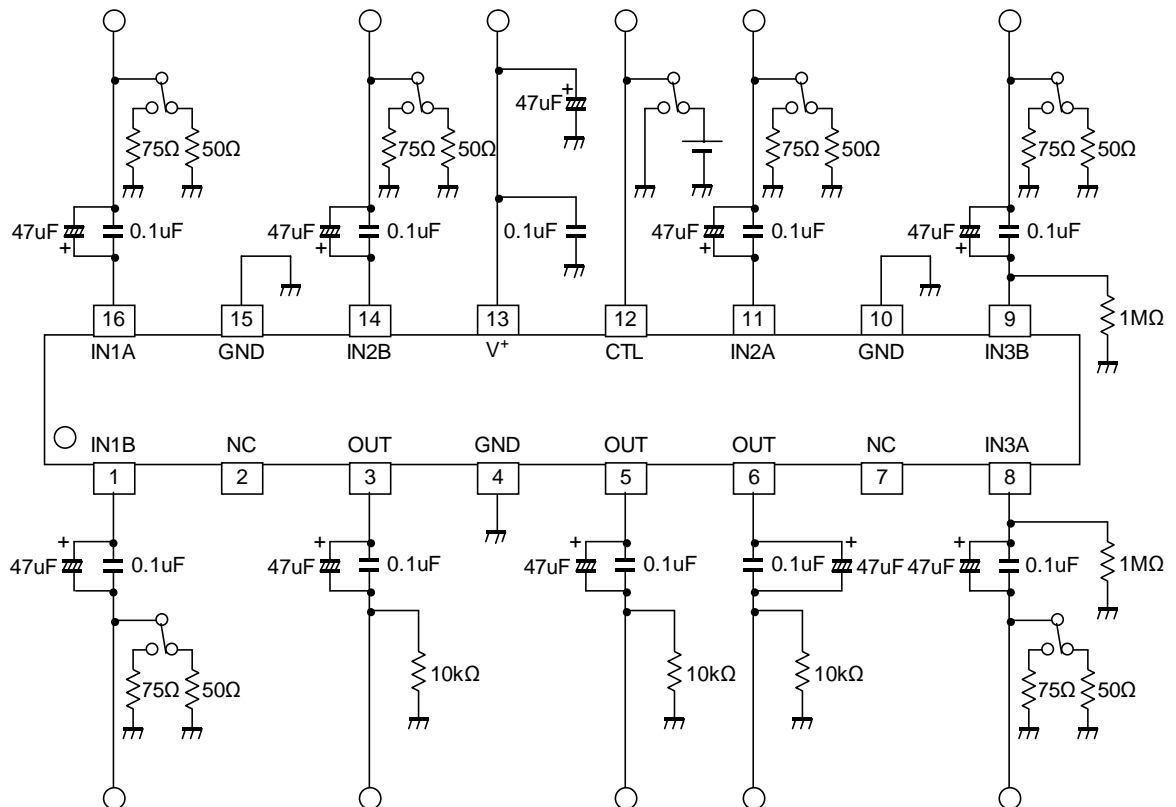
PIN No.	PIN NAME	INSIDE EQUIVALENT CIRCUIT	VOLTAGE	Note
16 1 11 14	IN1A IN1B IN2A IN2B		2.90V	IN1A, IN2A CTL : L IN1B, IN2B CTL : H
8 9	IN3A IN3B		1.75V	IN3A CTL : L IN3B CTL : H
3 5 6	OUT1 OUT2 OUT3		(OUT1, OUT2) 2.10V (OUT3) 1.00V	
12	CTL		0V	
13	V+	_____		
15 4 10	GND1 GND2 GND3	_____		

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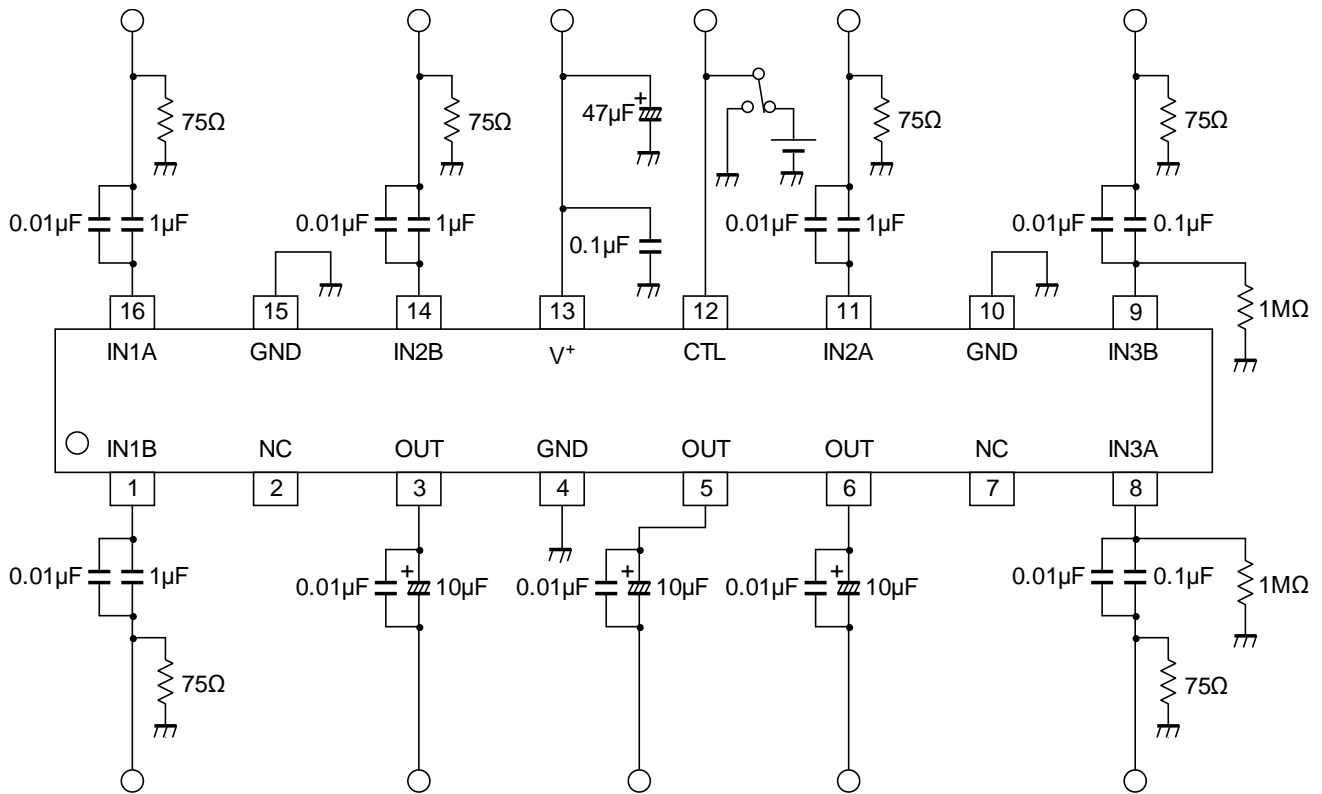
TEST CIRCUIT1



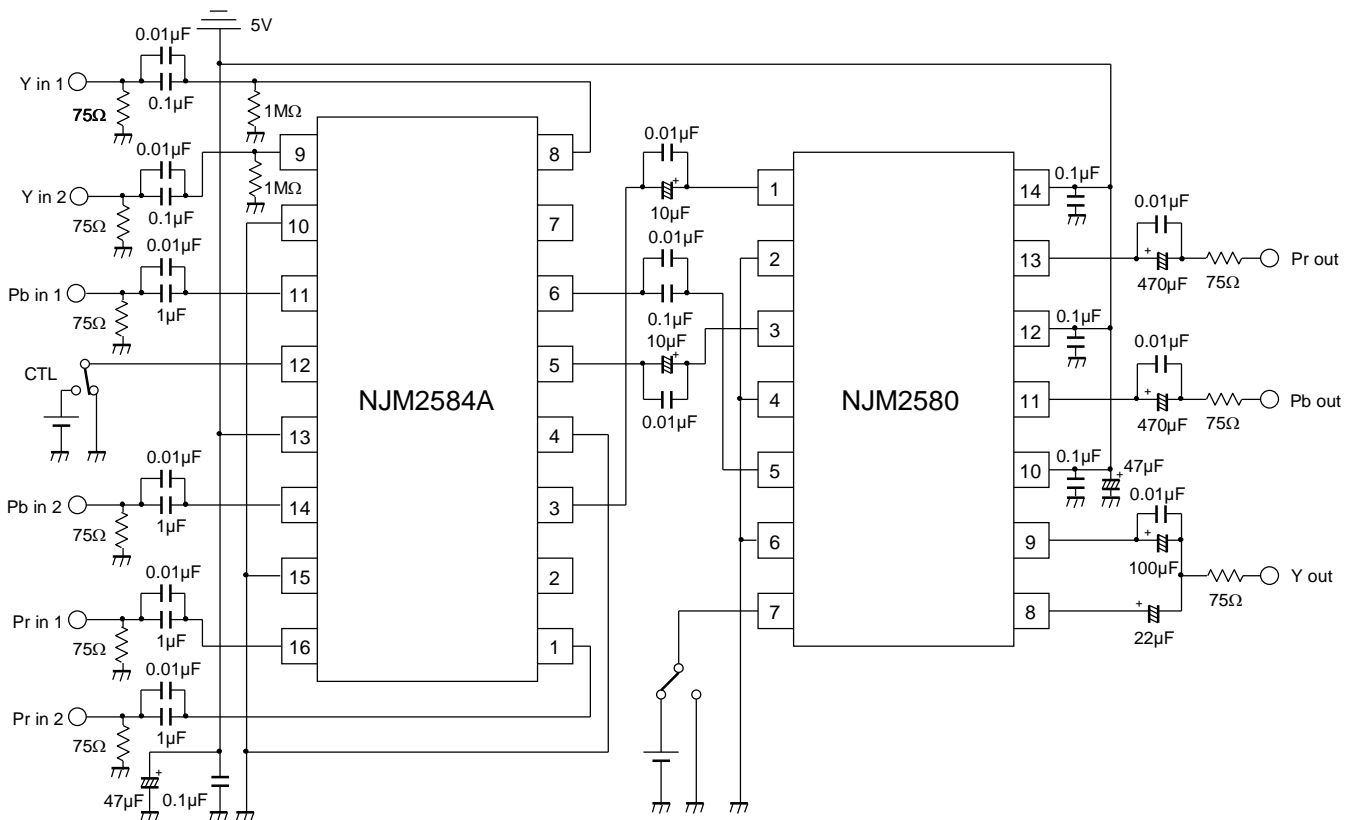
TEST CIRCUIT2 (DG, DP, S/N)



APPLICATION CIRCUIT 1



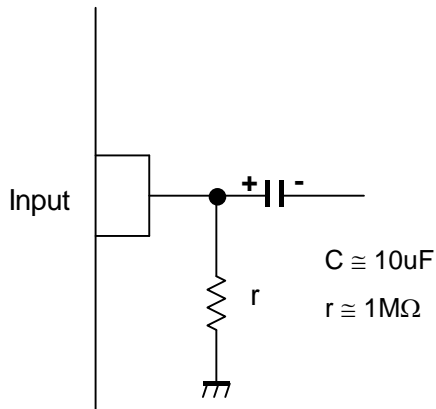
APPLICATION CIRCUIT 2



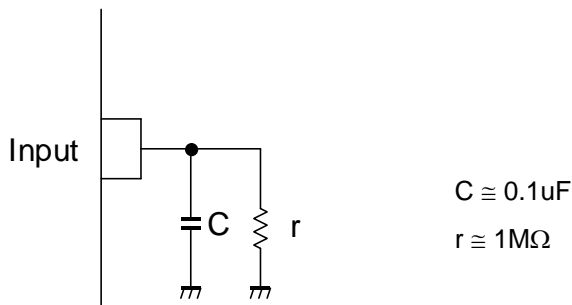
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APPLICATION

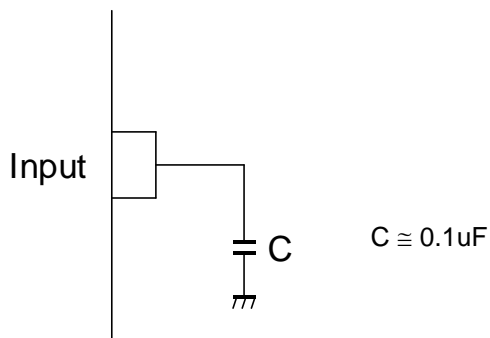
This IC requires $1M\Omega$ resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



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.



This IC requires $0.1\mu\text{F}$ capacitor between INPUT and GND for bias type input at mute mode.



When the power supply voltage is not impressing, please do not impress voltage to the control terminal.

[CAUTION]
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