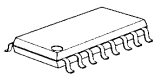
WIDE BAND 3 CIRCUITS VIDEO SWITCH

■ 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

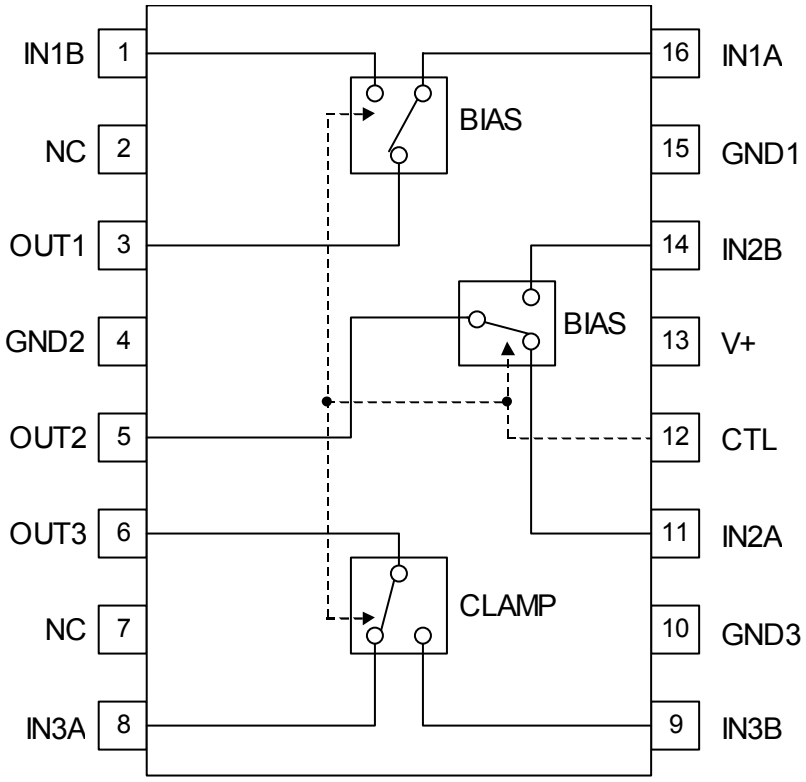


NJM2584AM

■ 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 1μF
- Operating Current 10mA typ.
- Bipolar Technology
- Package Outline DMP16

■ BLOCK DIAGRAM



■ **ABSOLUTE MAXIMUM RATINGS** (Ta=25°C)

PARAMETERS	SYMBOL	RATINGS	UNIT
Supply Voltage	Vcc	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

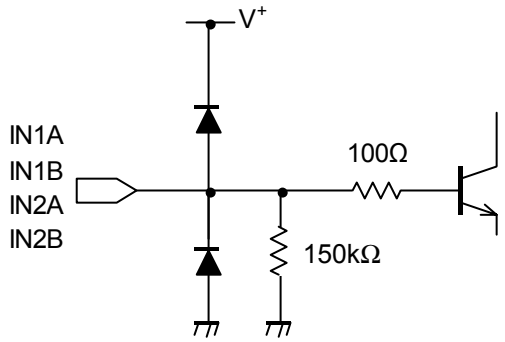
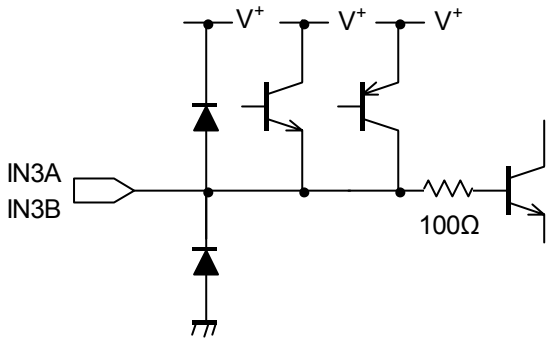
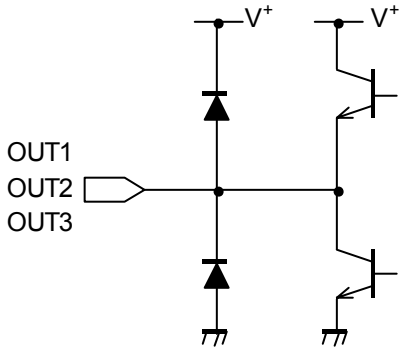
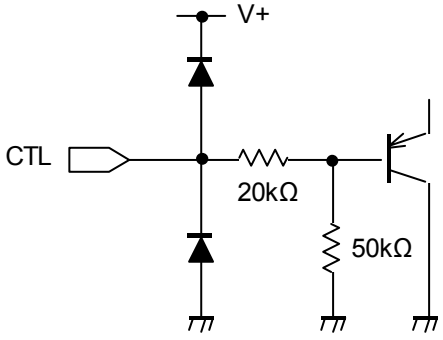
■**ELECTRICAL CHARACTERISTICS** (Vcc=5.0V, R_L=10kΩ, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I_{CC}	No signal	-	10.0	15.0	mA
Maximum input Voltage1	Vim1	BIAS input	3.2	3.5	-	Vp-p
Maximum input Voltage 2	Vim2	CLAMP input	2.4	2.6	-	Vp-p
Maximum Output Voltage 1	Vom1	BIAS input, Vin=1kHz,Sin signal,THD=1%,	3.2	3.5	-	Vp-p
Maximum Output Voltage 2	Vom2	CLAMP input, Vin=1kHz,Sin signal,THD=1%,	2.4	2.6	-	Vp-p
Voltage Gain	Gv	Vin=1MHz,2.0Vp-p Sin signal	-0.5	0	0.5	dB
Differential Gain (Channel)	ΔGvl	Vin=1MHz,2.0Vp-p Sin signal	-0.2	0	0.2	dB
Differential Gain (Block)	ΔGvB	Vin=1MHz,2.0Vp-p Sin signal	-0.2	0	0.2	dB
Band Width	f		-	50	-	MHz
Frequency Characteristic	Gf	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	SNv	Vin=1.0Vpp,100% White Video signal	-	+65	-	dB
Switch Change Voltage H Level	VthH		2.0	-	V^+	V
Switch Change Voltage L Level	VthL		0	-	0.6	V

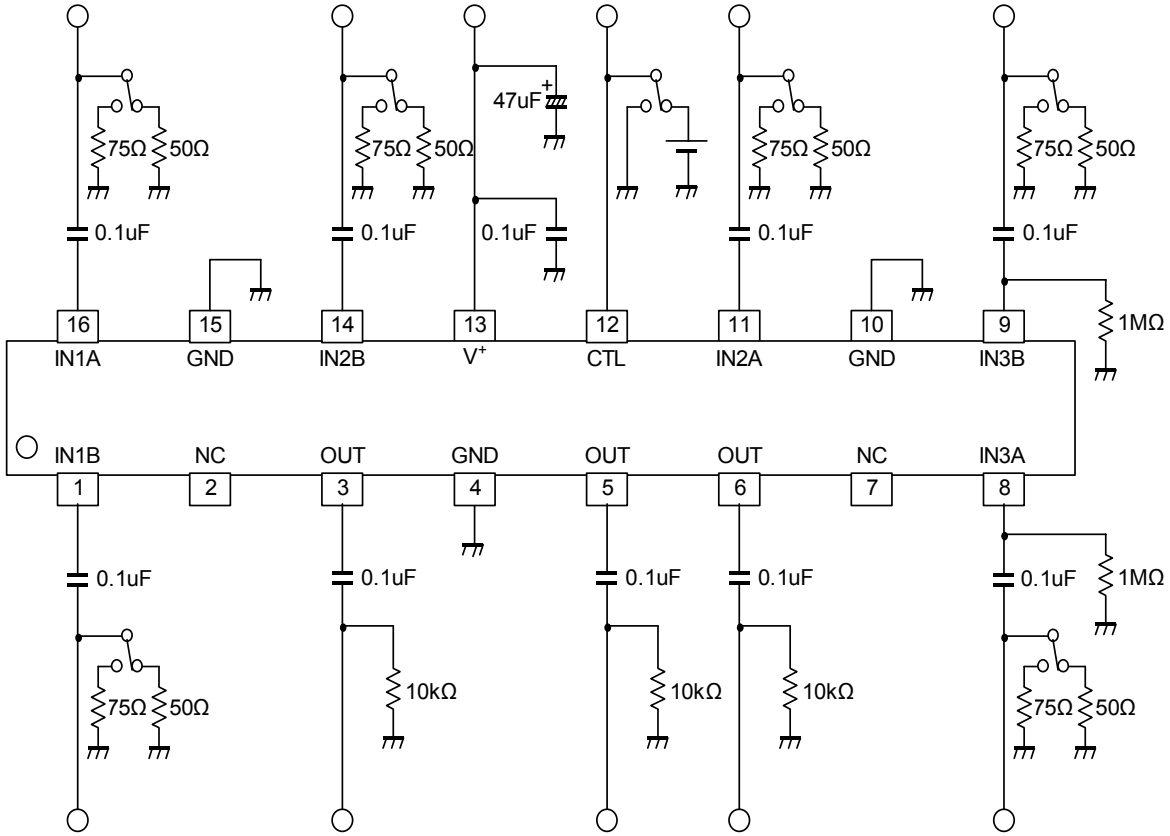
■**MODE SWITCH FUNCTION**

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

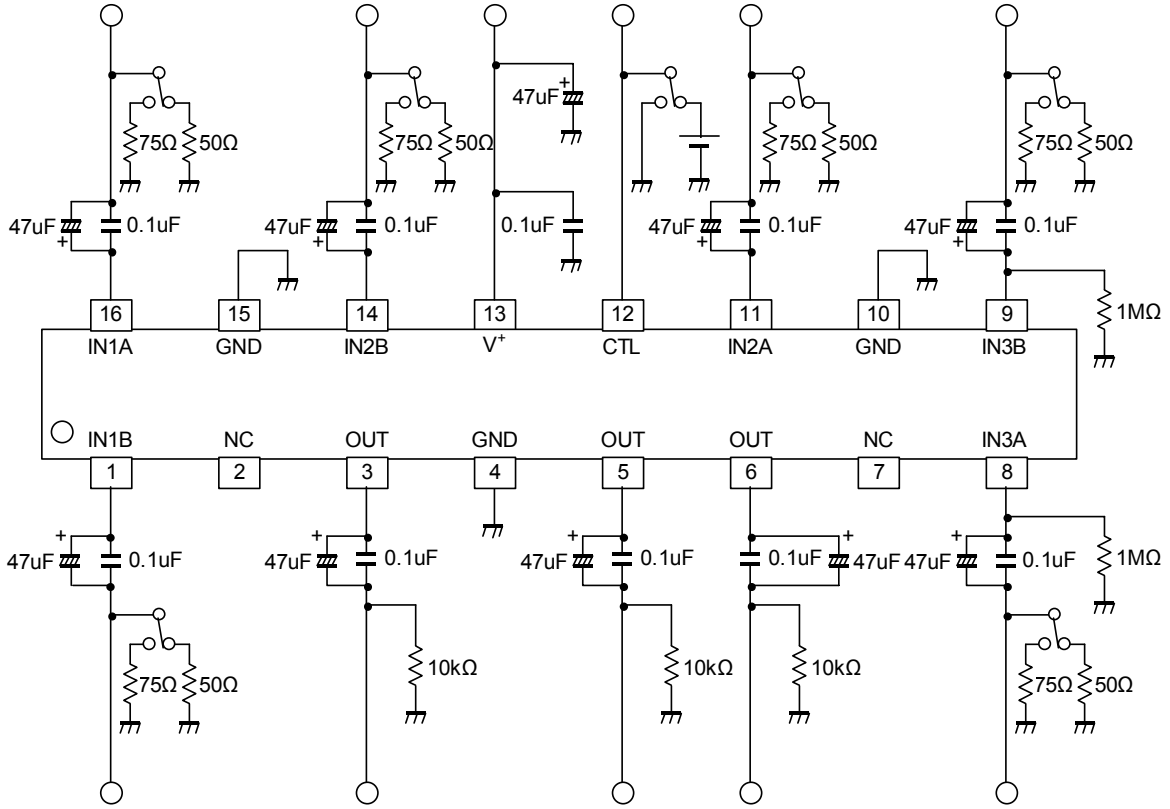
■ **EQUIVALENT CIRCUIT (V+=5.0V)**

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	———		

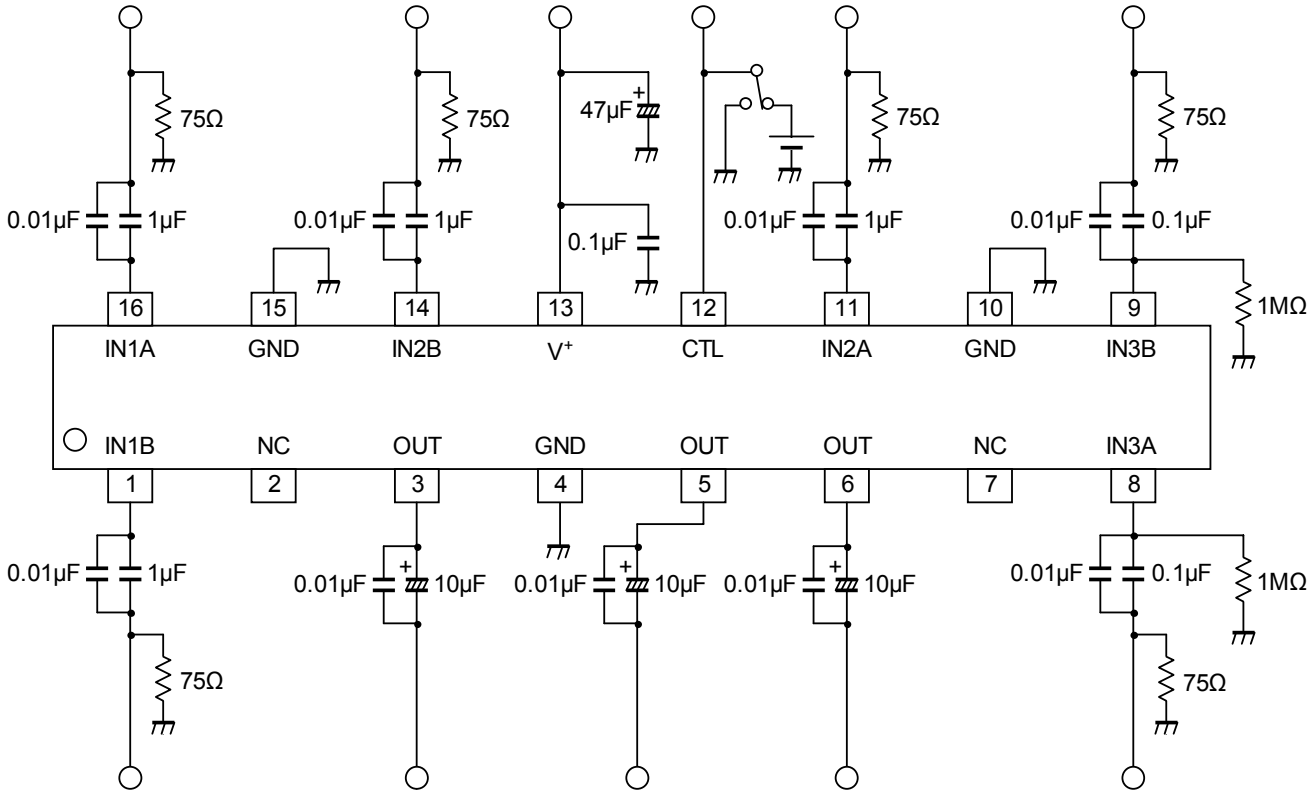
■ TEST CIRCUIT1



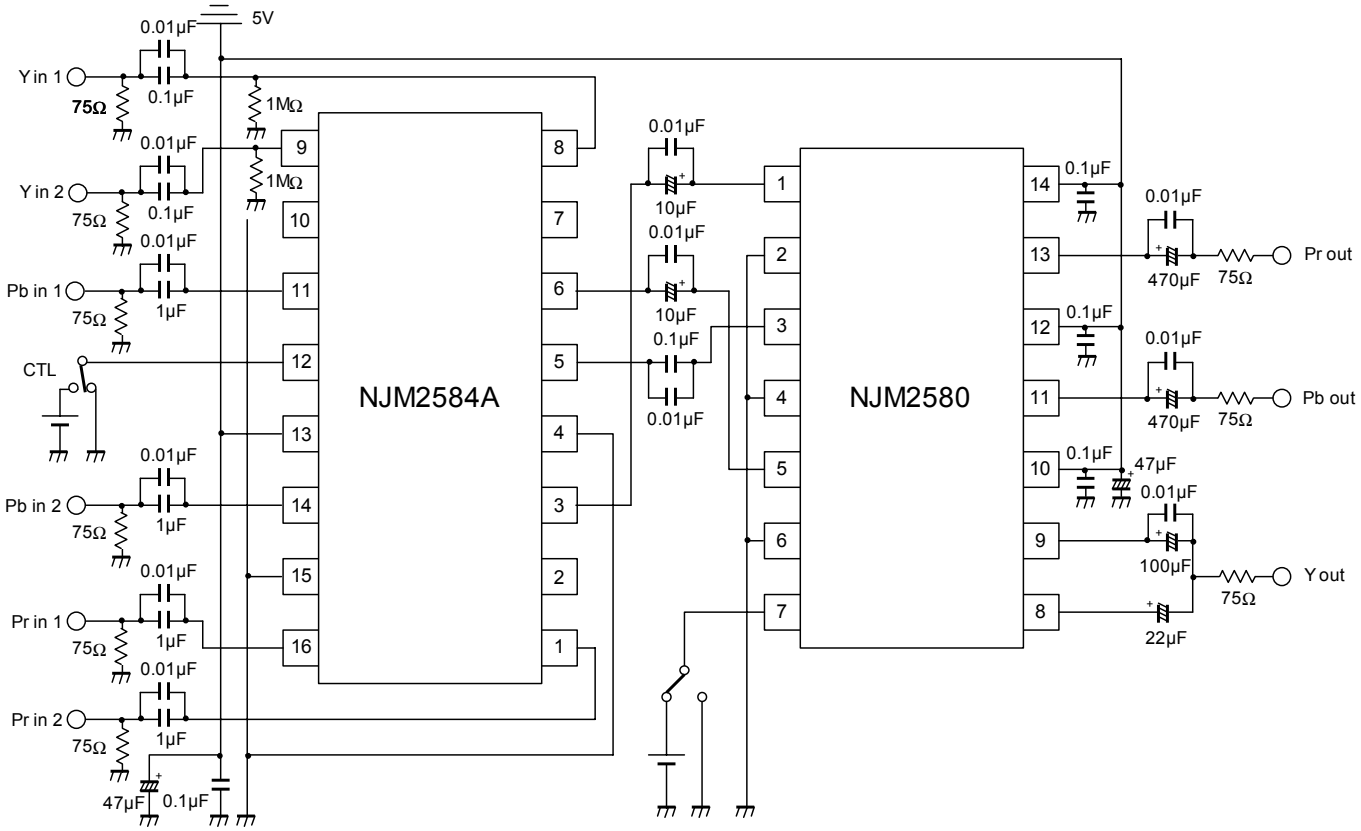
■ TEST CIRCUIT2 (DG, DP, S/N)



■ APPLICATION CIRCUIT 1

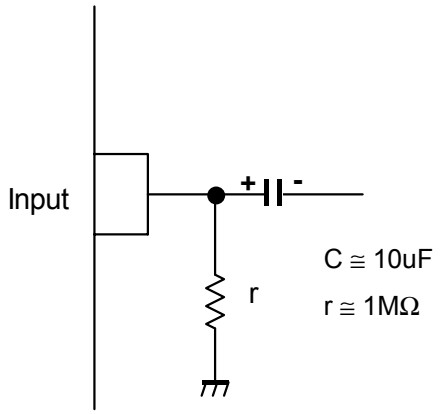


■ APPLICATION CIRCUIT 2

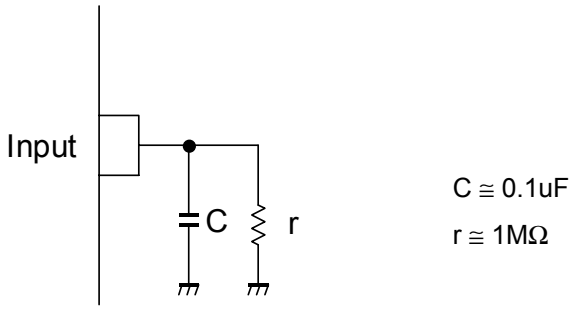


■ APPLICATION

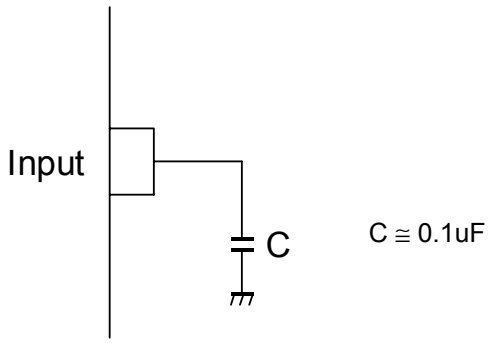
This IC requires 1MΩ resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



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



This IC requires 0.1uF 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.