

## TRIPLE ISOLATION AMPLIFIER

### ■ GENERAL DESCRIPTION

**NJM41033** is the triple isolation amplifier developed for the component video signal. It can remove the noise of a signal with isolation amplifier. It is suitable for the interface of the video signal of a car AV system.

### ■ FEATURES

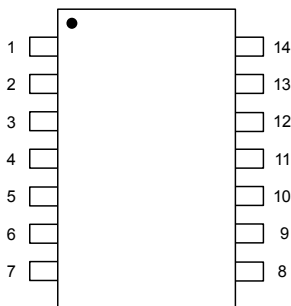
- Operating Voltage 2.6 to 5.5V
- Common Mode Noise Rejection Ratio  $-55\text{dBtyp.}$
- Voltage Gain  $0\text{dBtyp.}$
- Frequency Characteristics  $0\text{dBtyp. at } 13.5\text{MHz(for } 480\text{p)}$
- Bipolar Technology
- Package SSOP14

### ■ PACKAGE OUTLINE



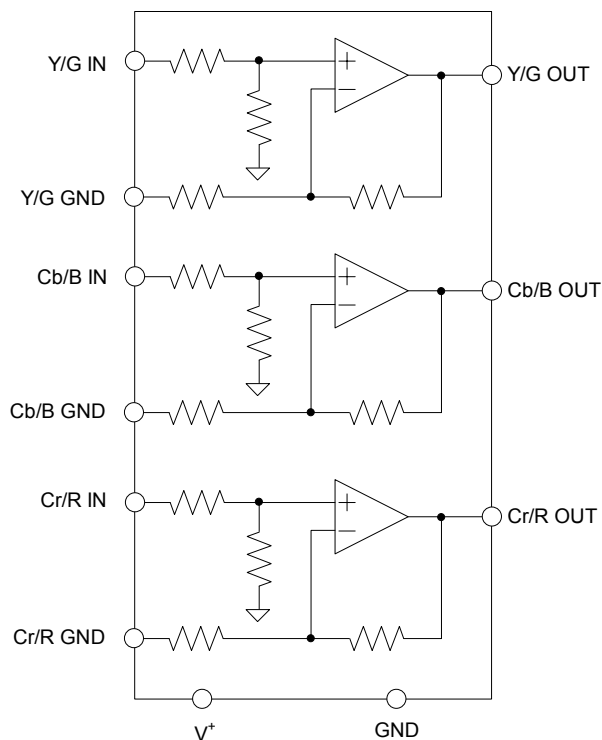
**NJM41033V**

### ■ PIN CONFIGURATION



- |             |              |
|-------------|--------------|
| 1. Y/G in   | 8. N.C.      |
| 2. Y/G GND  | 9. Cr/R out  |
| 3. GND      | 10. N.C.     |
| 4. Cb/B in  | 11. Cb/B out |
| 5. Cb/B GND | 12. V+       |
| 6. Cr/R in  | 13. Y/G out  |
| 7. Cr/R GND | 14. N.C.     |

### ■ BLOCK DIAGRAM



# NJM41033

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

PARAMETERS	SYMBOL	RATINGS	UNIT
Supply Voltage	V+	15.0	V
Power Dissipation	P <sub>D</sub>	440(Note)	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

(Note 1) At on a board of EIA/JEDEC specification. (114.3 x 76.2 x 1.6mm 2 layers, FR-4)

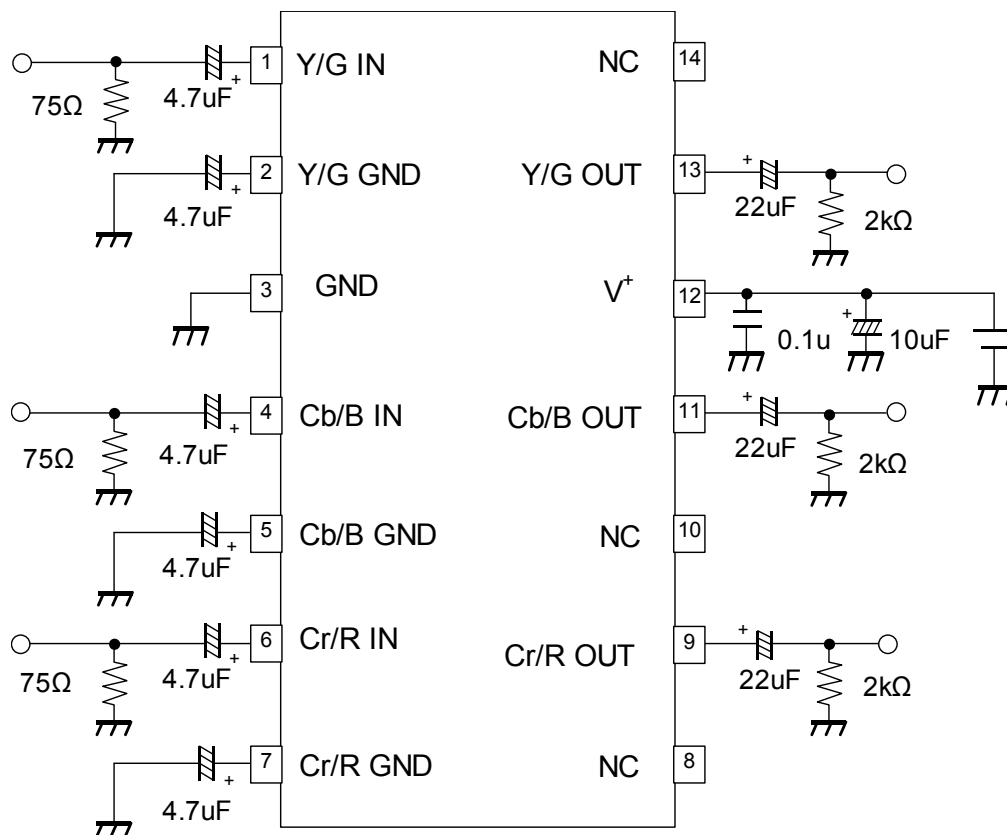
## ■ RECOMMENDED OPERATING CONDITION (Ta= 25 °C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	Vopr		+2.6	-	+5.5	V

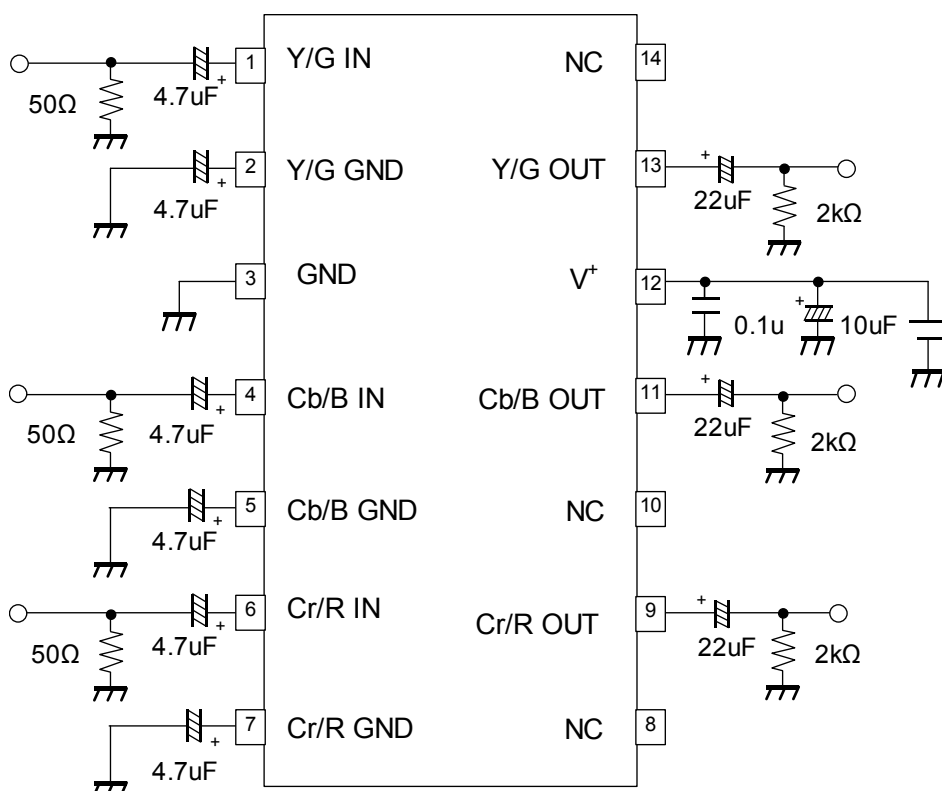
## ■ ELECTRICAL CHARACTERISTICS (V<sub>CC</sub>= 5.0V, Ta= 25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current	I <sub>CC</sub>	No signal	-	23	29	mA
Maximum Output Level	V <sub>om</sub>	V <sub>in</sub> =100kHz, sin-signal, THD=1%,	3.9	4.6	-	V <sub>p-p</sub>
Voltage Gain	G <sub>v</sub>	V <sub>in</sub> =100kHz, 1.0V <sub>p-p</sub> sin-signal	-1.0	0	1.0	dB
Frequency Characteristics	G <sub>f</sub>	V <sub>in</sub> =13.5MHz/ 1MHz , 1.0V <sub>pp</sub> sin-signal	-1.0-	0	1.0	dB
Common Mode Noise Ratio	CMR	V <sub>in</sub> =20KHz, V <sub>in</sub> =1V <sub>pp</sub>	-	-55	-	dB
Differential Gain	DG	V <sub>in</sub> =1.0V <sub>p-p</sub> 10step video signal	-	0.5	-	%
Differential Phase	DP	V <sub>in</sub> =1.0V <sub>p-p</sub> 10step video signal	-	0.5	-	deg
Channel Cross-talk	CT	V <sub>in</sub> =13.5MHz, 1.0V <sub>p-p</sub>	-	-55	-	dB

## ■ TEST CIRCUIT 1 (Icc, Vom, DG, DP, S/N)

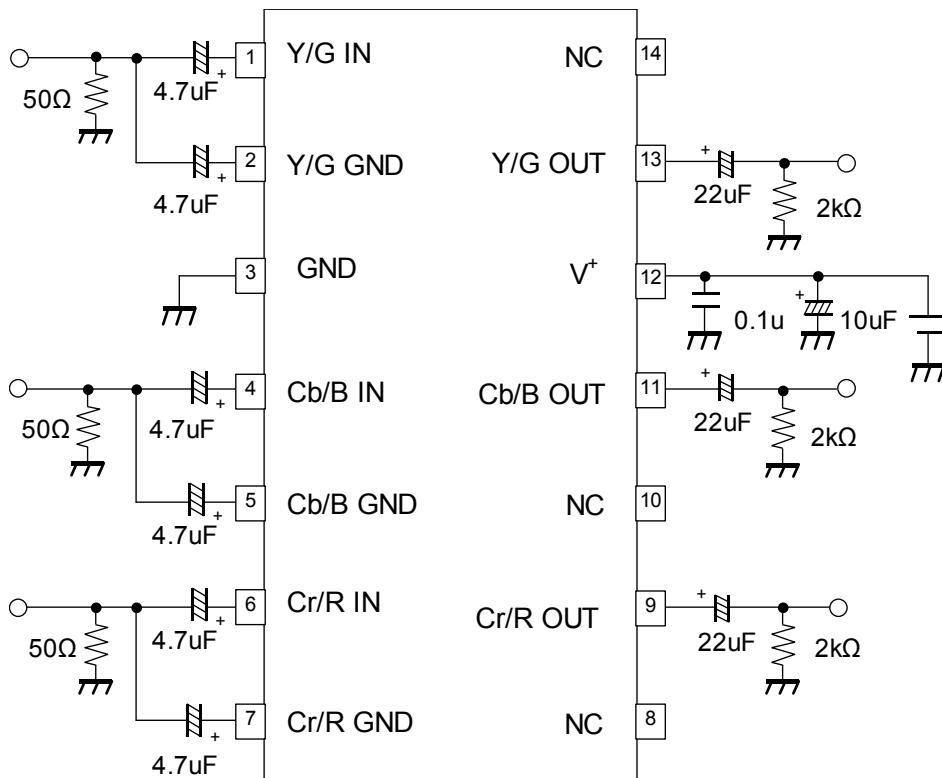


## ■ TEST CIRCUIT 2 (Gf, Gv)

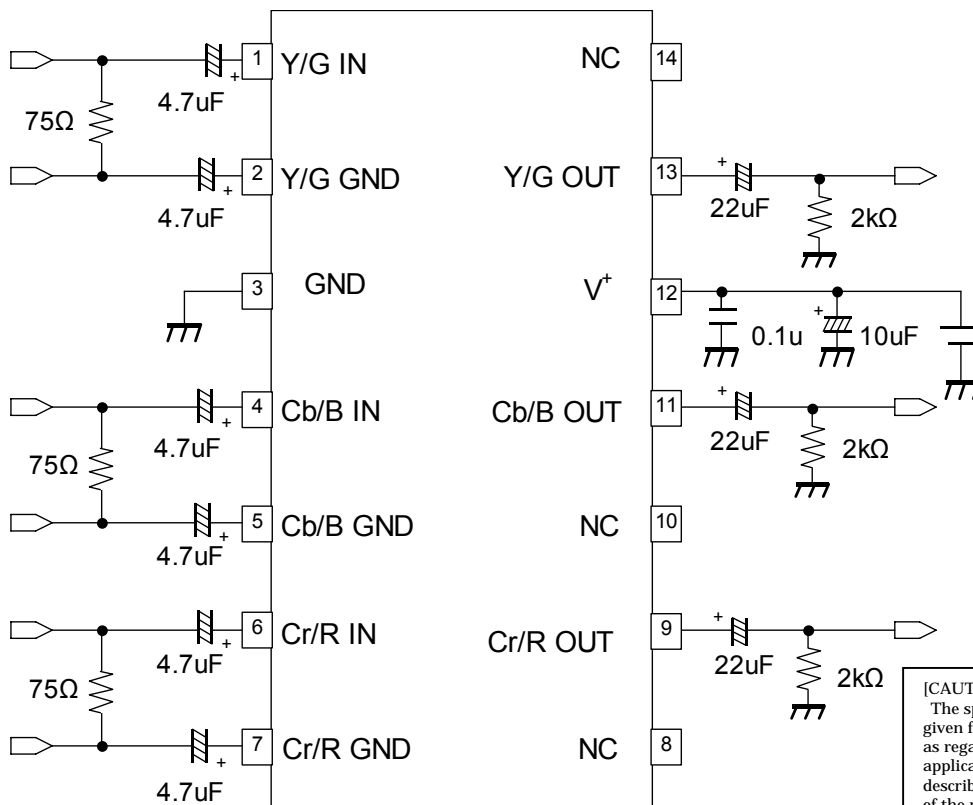


# NJM41033

## TEST CIRCUIT 3 (CMRR)



## APPLICATION CIRCUIT



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