

3dB Video Amplifier

■ GENERAL DESCRIPTION

The NJM41030 is a small package 3dB video amplifier.

■ PACKAGE OUTLINE

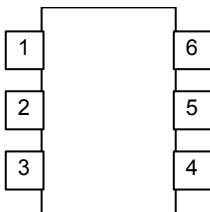


NJM41030F1

■ FEATURES

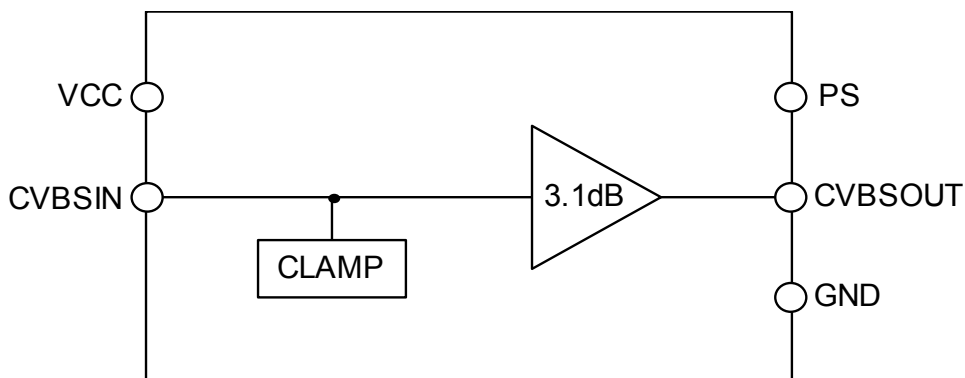
- Operating Voltage 4.5 to 5.5V
- Operating temperature range -40 to +85 °C
- 3.1dB Amplifier, 560Ω Driver
- Frequency Characteristics 0dB at 10MHz
- Power Save Circuit
- Bipolar Technology
- Small Package SOT-23-6 (MTP6)

■ PIN CONFIGURATION



- | | |
|-----------|----------|
| 1.CVBSOUT | 6.PS |
| 2.GND | 5.NC |
| 3.VCC | 4.CVBSIN |

■ BLOCK DIAGRAM



NJM41030

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETERS	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{CC}	7.0	V
Power Dissipation	P _D	TBD (Note1)	mW
Operating Temperature Range	T _{opr}	-40 to +85	°C
Storage Temperature Range	T _{stg}	-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	V _{opr}		+4.5	+5.0	+5.5	V

■ ELECTRICAL CHARACTERISTICS (V_{CC}= 5.0V, R_L= 560Ω, Ta= 25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I _{CC}	No signal	-	8.0	15	mA
Operating Current at Power Save	I _{save}	Power save	-	0.8	1.6	mA
Maximum Output Voltage Swing	V _{om}	V _{in} =100kHz, Sine-wave, THD=1%	2.2	-	-	V _{p-p}
Frequency Characteristics	G _f	V _{in} =10MHz/1MHz, 0.7V _{pp} Sine-wave	-1.0	0	1.0	dB
Voltage Gain	G _v	V _{in} =1MHz, 0.7V _{pp} Sine-wave	2.8	3.1	3.4	dB
Differential Gain	DG	V _{in} =0.7V _{pp} 10step Video signal	-2 (Note2)	0	+2 (Note2)	%
Differential Phase	DP	V _{in} =0.7V _{pp} 10step Video signal	-2 (Note2)	0	+2 (Note2)	deg
Input Impedance	Z _{IN}	(Note1)	6	-	-	MΩ
Switch inflow current High Level	I _{SWH}	PSV=5V	-	-	300	μA
Switch inflow current Low Level	I _{SWL}	PS=0.3V	-	-	30	μA
Switch Change Voltage High Level	V _{thH}	PS	2.0	-	V ⁺	V
Switch Change Voltage Low Level	V _{thL}	PS	0	-	1.0	V

(Note1) The DC voltage is input to CVBSIN. Value calculate from difference of input current of 3V and 2V.

(Note2) Limits are guaranteed by statistical analysis.

■ SWITCH FUNCTION

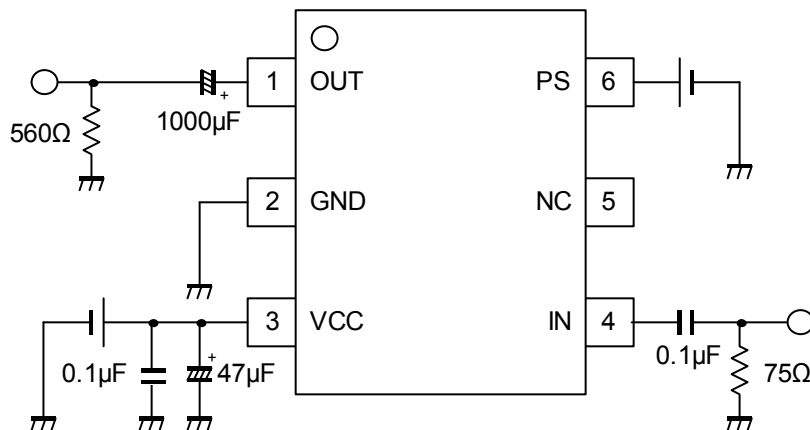
PIN	MODE	NOTES
PS (Power Save)	H	Active
	L	Power Save (Mute)
	OPEN	Power Save (Mute)

■ TERMINAL FUNCTION

PIN No.	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT	DC VOLTAGE
1	CVBS OUT	Composite Video Signal Output		1.4V
2	GND	GND	-	-
3	VCC	Power Supply	-	-
4	CVBS IN	Composite Video Signal Input		1.56V
5	NC	No Connection	-	-
6	PS	Power Save Control Voltage Input		-

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■ TEST CIRCUIT



[CAUTION]

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