3dB Video Amplifier

■ GENERAL DESCRIPTION

The **NJM41030** is a small package 3dB video amplifier.

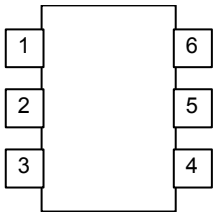
■ PACKAGE OUTLINE

NJM41030F1

■ FEATURES

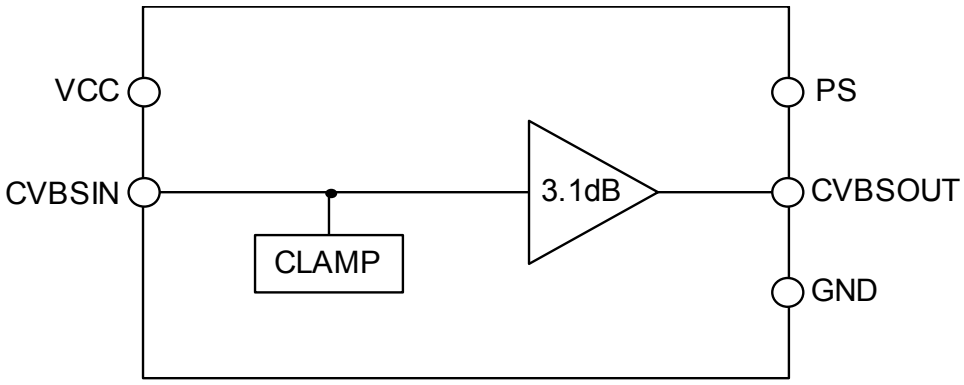
- Operating Voltage 4.5 to 5.5V
- Operating temperature range -40 to +85 °C
- 3.1dB Amplifier, 560Ω Driver
- Frequency Characteristics 0dB at 10MHz
- Power Save Circuit
- Bipolar Technology
- Small Package SOT-23-6 (MTP6)

■ PIN CONFIGURATION



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

■ BLOCK DIAGRAM



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

PARAMETERS	SYMBOL	RATINGS	UNIT
Supply Voltage	Vcc	7.0	V
Power Dissipation	P_D	TBD (Note1)	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 OPEARATING CONDITION** (Ta= 25 °C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	Vopr		+4.5	+5.0	+5.5	V

■**ELECTRICAL CHARACTERISTICS** (Vcc= 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	Isave	Power save	-	0.8	1.6	mA
Maximum Output Voltage Swing	Vom	Vin=100kHz, Sine-wave, THD=1%	2.2	-	-	Vp-p
Frequency Characteristics	Gf	Vin=10MHz/1MHz, 0.7Vpp Sine-wave	-1.0	0	1.0	dB
Voltage Gain	Gv	Vin=1MHz, 0.7Vpp Sine-wave	2.8	3.1	3.4	dB
Differential Gain	DG	Vin=0.7Vpp 10step Video signal	-2 (Note2)	0	+2 (Note2)	%
Differential Phase	DP	Vin=0.7Vpp 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

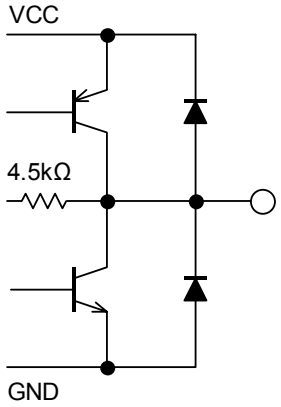
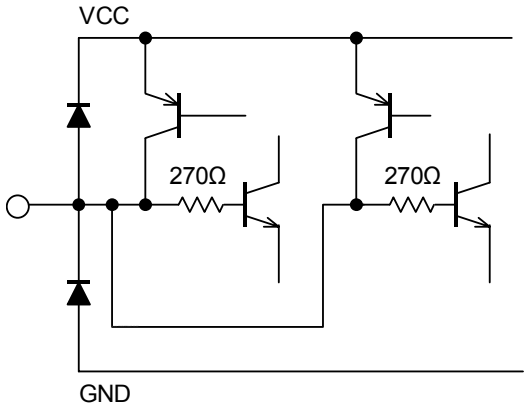
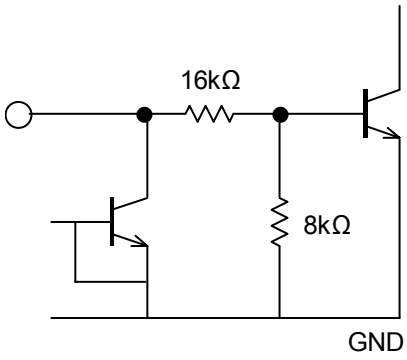
(Note1) The DC voltage is input to CVBSIN. Value calculate from difference of input current of 3V and 2V.

(Note2) Limits are guaranteed by statistical analysis.

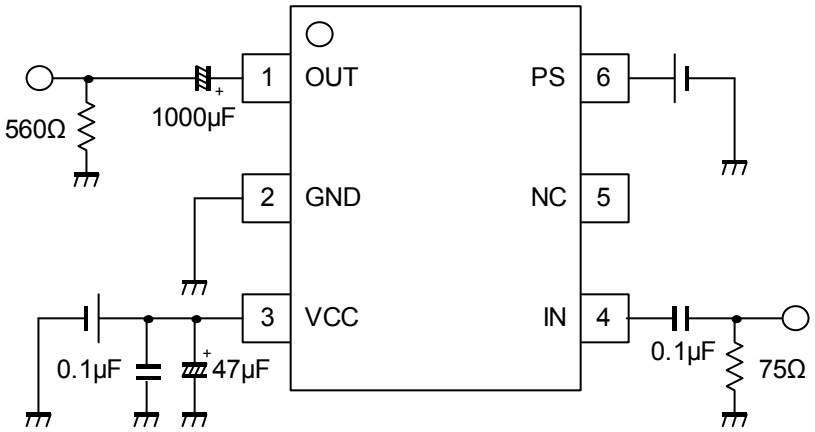
■ **SWITCH FUNCTION**

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 Intput		1.56V
5	NC	No Connection	-	-
6	PS	Power Save Control Voltage Input		-

■ **TEST CIRCUIT**



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