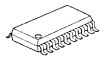
4ch Video Driver with Y/C mix and SD/HD LPF

■ GENERAL DESCRIPTION

The NJM41041 is a single supply voltage 4ch Video amplifier with Y/C mix and SD/ HD LPF.

■ PACKAGE OUTLINE



NJM41041VC3

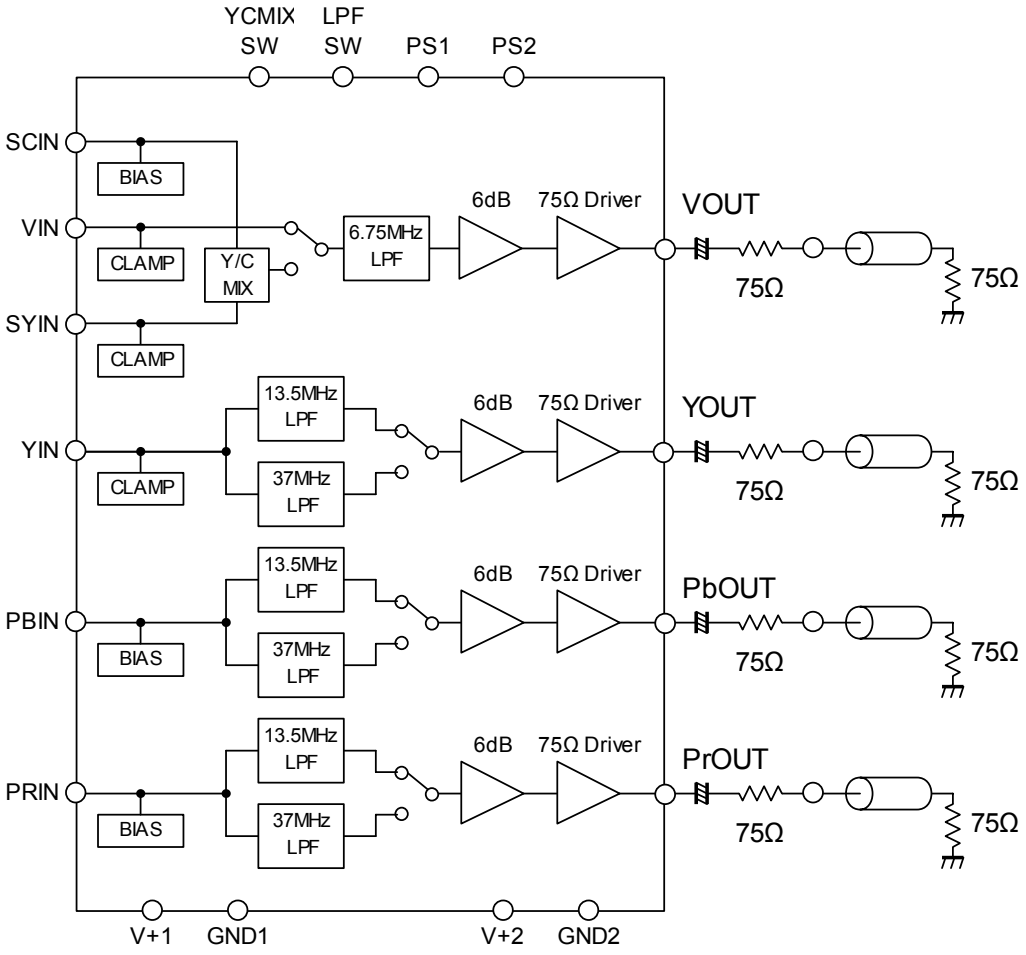
■ APPRICATION

- BD/DVD player
- Home Theater
- STB
- AV receiver

■ FEATURES

- Operating Voltage 4.5 to 5.5V
- Composite/ Component Video Signal Input
- SD/HD LPF
- Y/C mix 6.75MHz/13.5MHz/37MHz
- 6dB amplifier
- 75Ω Driver Circuit
- Power Save Circuit(V,Y/Pb/Pr independent control)
- Bipolar Technology
- Package Outline SSOP20-C3

■ BLOCK DIAGRAM



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

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	7.0	V
Power Dissipation	P_D	1500 (Note 1)	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +150	°C

(Note 1) At on a board of EIA/JEDEC specification. (114.3 x 76.2 x 1.6mm 4 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** (Ta=25°C, V^+=5V, R_L=150Ω)

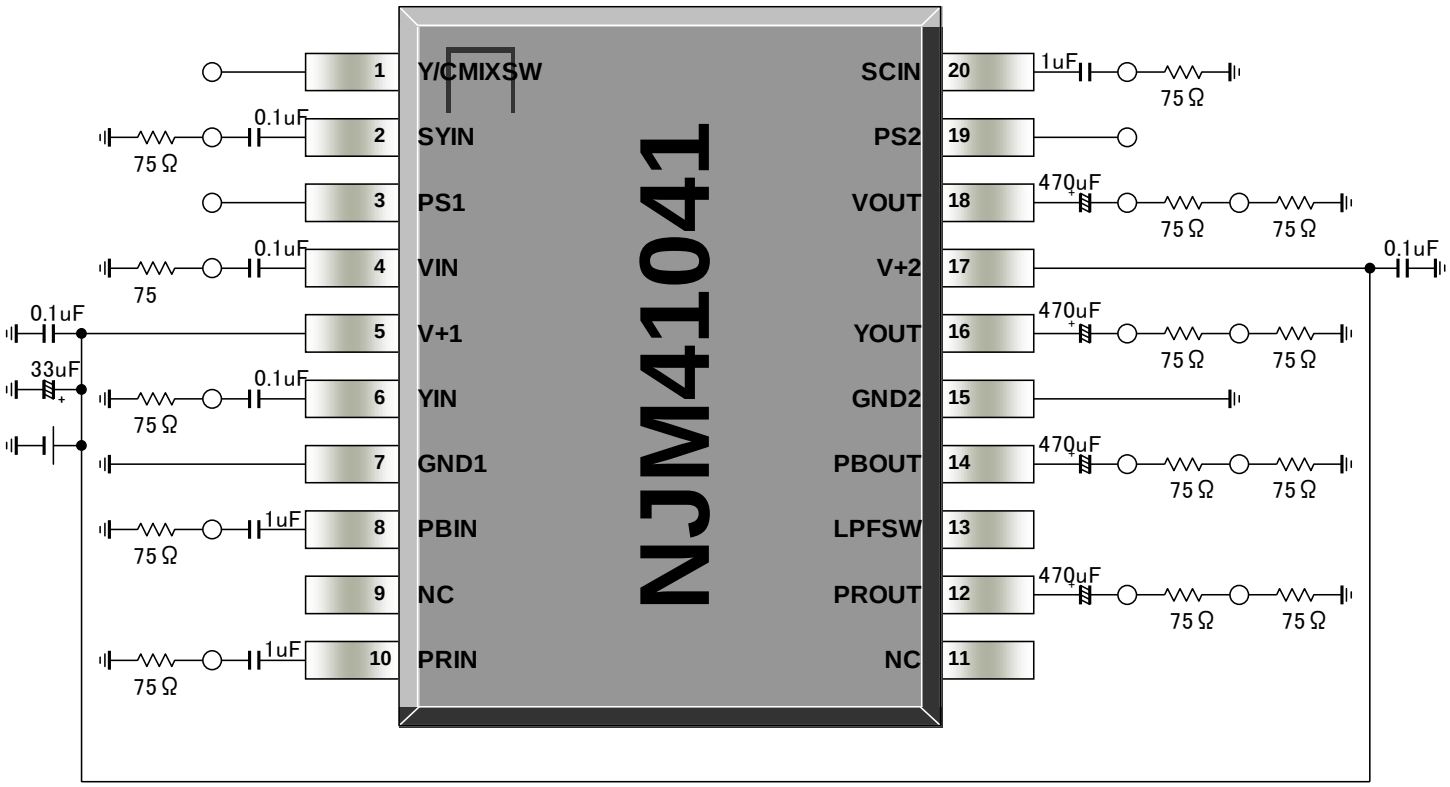
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I_{CC}	No Signal	-	70	90	mA
Operating Current at Power Save1	Isave1	Power Save Mode(PS1:ON,PS2:ON)	-	0.5	1	mA
Operating Current at Power Save2	Isave2	Power Save Mode(PS1:OFF,PS2:ON)	-	20	34	mA
Operating Current at Power Save3	Isave3	Power Save Mode(PS1:ON,PS2:OFF)	-	50	65	mA
Maximum Output Voltage Swing	Vom	Vin=100kHz, Sine Signal, THD=1%	2.4	-	-	Vp-p
Voltage Gain1	Gv1	(Note 1) Vin=1MHz, 1.0Vp-p, Sine Signal	5.5	6.0	6.5	dB
Voltage Gain2	Gv2	(Note 2) Vin=3.58MHz, 1.0Vp-p, Sine Signal	5.5	6.0	6.5	dB
Low Pass Filter Characteristic 1	Gfy6.75M	(Note 1) 6.75MHz/1MHz, 1.0Vp-p, Sine Signal	-1.0	0	1.0	dB
	Gfy108M	(Note 1) 108MHz/1MHz, 1.0Vp-p, Sine Signal	-	-40.0	-24.0	dB
Low Pass Filter Characteristic 2	Gf_{HD}13.5M	(Note 3) 13.5MHz/1MHz, 1.0Vp-p, Sine Signal	-1.0	0	1.0	dB
	Gf_{HD}108M	(Note 3) 108MHz/1MHz, 1.0Vp-p, Sine Signal	-	-40.0	-24.0	dB
Low Pass Filter Characteristic 3	Gf_{HD}37M	(Note 3) 37MHz/1MHz, 1.0Vp-p, Sine Signal	-	-3.0	-	dB
	Gf_{HD}148M	(Note 3) 148MHz/1MHz, 1.0Vp-p, Sine Signal	-	-40.0	-24.0	dB
Differential Gain	DG	(Note 4) Vin=1.0Vp-p, 10step Video Signal	-	0.5	-	%
Differential Phase	DP	(Note 4) Vin=1.0Vp-p, 10step Video Signal	-	0.5	-	deg
S/N Ratio1	SN1	(Note 5) Vin=1.0Vp-p, 100% White video signal, 100KHz to 6MHz	-	80	-	dB
S/N Ratio2	SN2	(Note 6) Vin=1.0Vp-p, 100% White video signal, 100KHz to 6MHz	-	75	-	dB
SW Voltage High Level	VthH		2.2	-	V^+	V
SW Voltage Low Level	VthL		0	-	1.0	V
Switch inflow current High Level	IthH	V=5V	-	-	120	μA
Switch inflow current Low Level	IthL	V=0.3V	-	-	8.0	μA

(Note 1) V,SYIN,Y,Pb,Pr Input, (Note 2) SCIN Input (Note 3) Y,Pb,Pr Input, (Note 4) V,Y Input (Note 4) V,Y,Pb,Pr Input, (Note 5) SYIN Input

■ **CONTROL TERMINAL**

PARAMETER	STATUS	NOTE
PS1 (Power Save1)	H	V Power Save: ON (Mute)
	L	V Power Save: OFF (Active)
	OPEN	V Power Save: OFF (Active)
PS2 (Power Save2)	H	Y/Pb/Pr Power Save: ON (Mute)
	L	Y/Pb/Pr Power Save: OFF (Active)
	OPEN	Y/Pb/Pr Power Save: OFF (Active)
Y/C MIX	H	VOUT: Y/C MIX
	L	VOUT: Vin
	OPEN	VOUT: Vin
LPF SW (Low Pass Filter)	H	37MHz LPF
	L	13.5MHz LPF
	OPEN	13.5MHz LPF

■ TEST CIRCUIT



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