

OUTPUT COUPLING CAPACITOR-LESS LOW VOLTAGE VIDEO AMPLIFIER WITH LPF

■ GENERAL DESCRIPTION

The NJU71032 is a Low Voltage Video Amplifier with LPF circuit. By the internal charge pump circuit, output capacitor is unnecessary.

The NJU71032 features low power and small package, and is suitable for low power design on downsizing of portable video system and system with video output.

- NJU71031 (Gain=6dB)

■ PACKAGE OUTLINE



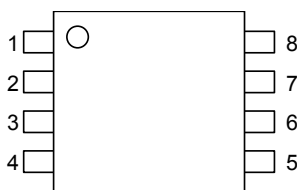
NJU71032RB1
MSOP8(TVSP8)

■ FEATURES

- Operating Voltage 2.5 to 3.45V
- Output coupling capacitor-less
- 6dB amplifier
- Internal 75Ω Driver Circuit (2-system drive)
- Internal LPF 0dB at 6.75MHz typ
 -40dB at 54MHz typ
- Power Save Circuit
- CMOS Technology
- Package Outline MSOP8(TVSP8)*

*MEET JEDEC MO-187-DA / THIN TYPE

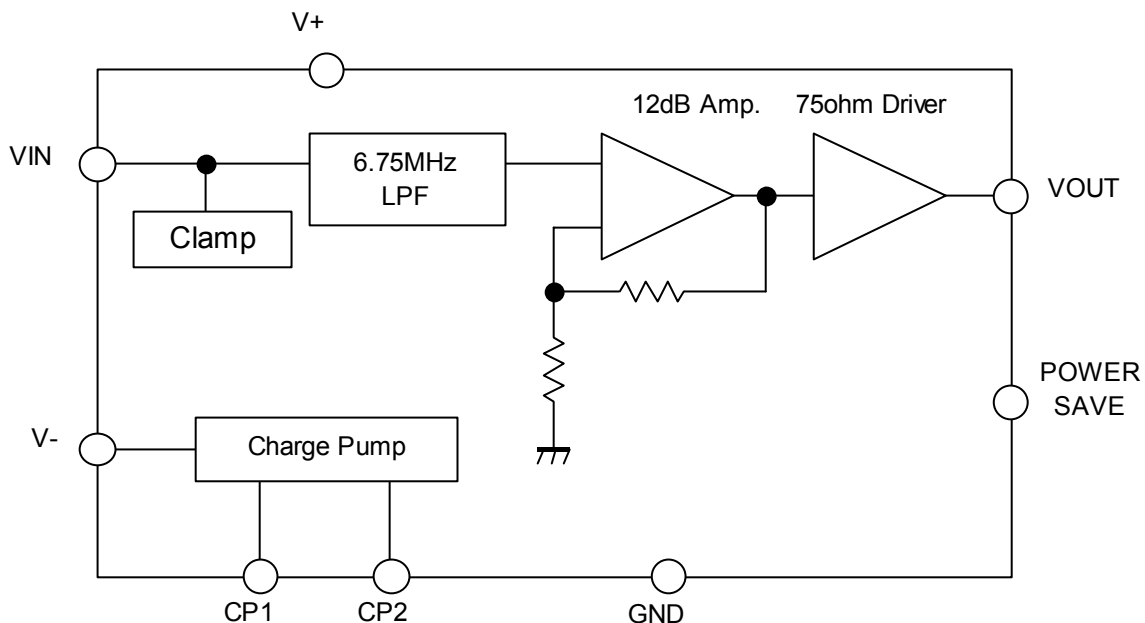
■ PIN CONFIGURATION



NJU71032RB1

- 1: CP1
- 2: V+
- 3: VIN
- 4: Power Save
- 5: VOUT
- 6: GND
- 7: V-
- 8: CP2

■ BLOCK DIAGRAM



NJU71032

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	3.55	V
Power Dissipation	P _D	MSOP8(TVSP8): 580 (Note1)	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-55 to +150	°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		2.5	-	3.45	V

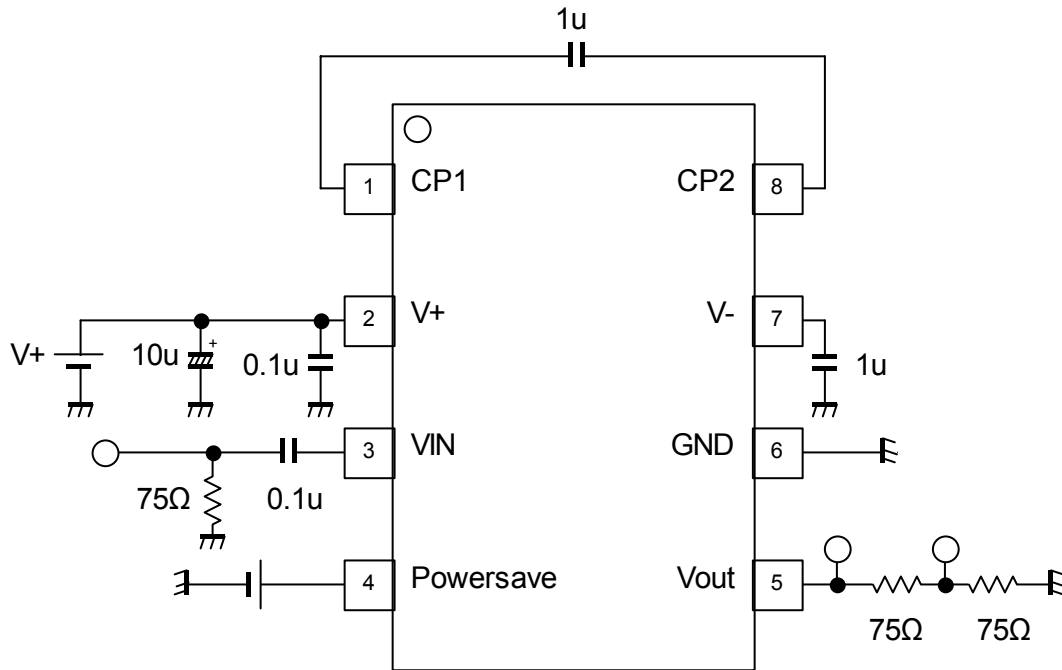
■ ELECTRICAL CHARACTERISTICS (V⁺=3.0V, R_L=150Ω, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I _{CC}	No Signal	-	16	22	mA
Operating Current at Power Save	I _{save}	No Signal, Power Save Mode	-	0.1	10	μA
Maximum Output Voltage Swing	V _{om}	f=100kHz, THD=1%	2.4	3.0	-	V _{p-p}
Voltage Gain	G _v	V _{in} =100kHz, 0.5V _{p-p} , Input Sine Signal	11.6	12.0	12.4	dB
Low Pass Filter Characteristic	G _{fy} 6.75M	V _{in} =6.75MHz/100kHz, 0.5V _{p-p}	-1.0	0	1.0	dB
	G _{fy} 54M	V _{in} =54MHz/100kHz, 0.5V _{p-p}	-	-40	-24	
Differential Gain	DG	V _{in} =0.5V _{p-p} , 10step Video Signal	-	0.5	-	%
Differential Phase	DP	V _{in} =0.5V _{p-p} , 10step Video Signal	-	0.5	-	deg
S/N Ratio	SN _v	100kHz to 6MHz, V _{in} =0.5V _{p-p} 100% White Video Signal, R _L =75Ω	-	+65	-	dB
Switching Noise Level	N _{swpl}	R _L =75Ω, 10% White Video Signal	-	4	7	mV _{pp}
SW Change Voltage High Level	V _{thPH}	Active	1.25	-	V ⁺	V
SW Change Voltage Low Level	V _{thPL}	Non-active	0	-	0.45	

■ CONTROL TERMINAL

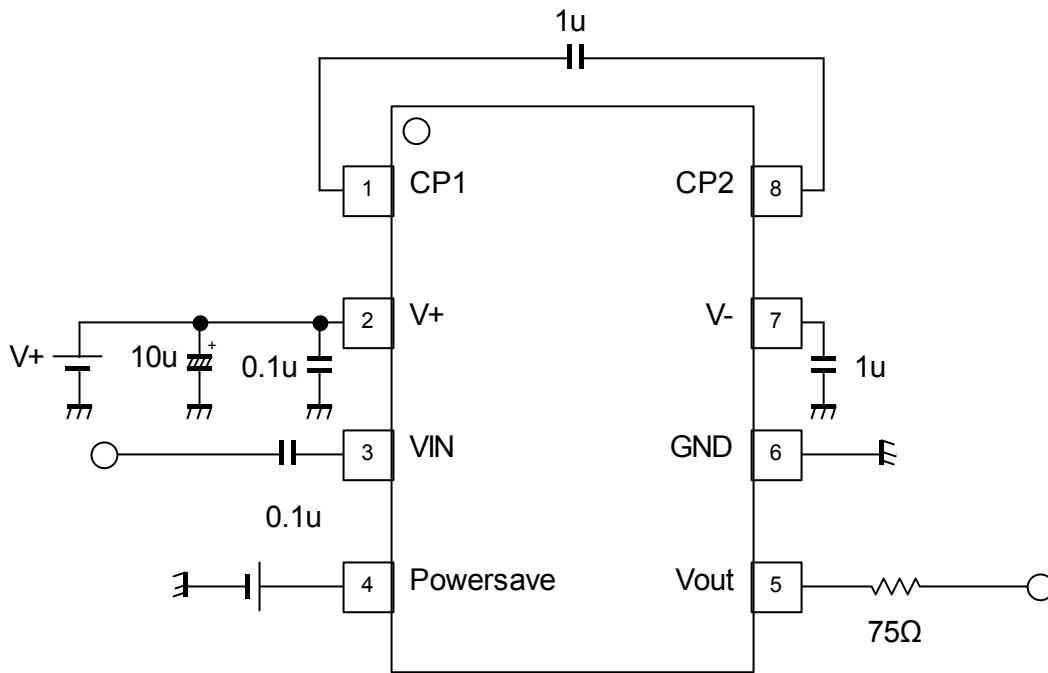
PARAMETER	STATUS	NOTE
Power Save	H	Power Save: OFF
	L	Power Save: ON (Mute)
	OPEN	Power Save: ON (Mute)

■ TEST CIRCUIT

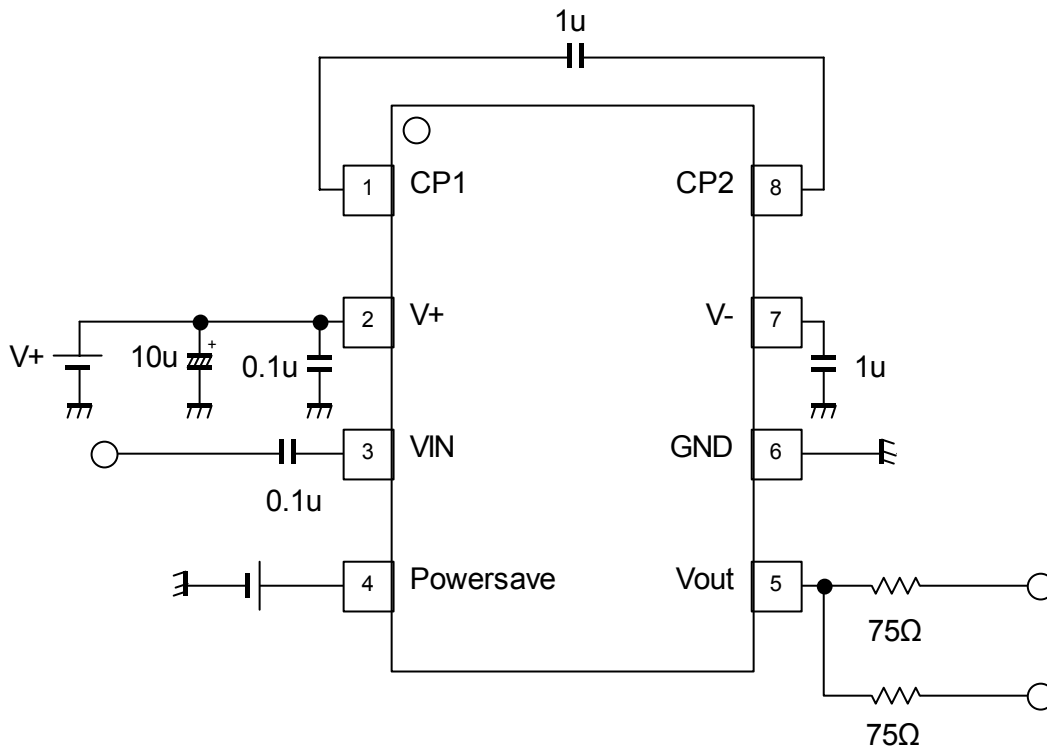


NJU71032

APPLICATION CIRCUIT 1 (Standard circuit)



APPLICATION CIRCUIT 2 (Two-line drive circuit)



■ TERMINAL FUNCTION

PIN No.	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT	DC VOLTAGE
1	CP1	Flying Capacitor Terminal		-
2	V+	V+ Power Supply	-	-
3	VIN	Input		0V
4	Power Save	Power Save		-
5	VOUT	Output		0V

Ver.1

PIN No.	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT	DC VOLTAGE
6	GND	Ground	-	-
7	V-	V- Power Supply	-	-
8	CP2	Flying Capacitor Terminal		-

[CAUTION]

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