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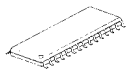
3-INPUT 1OUTPUT 3ch VIDEO AMPLIFIER WITH LPF

■GENERAL DESCRIPTION

NJM2515 is the 3 input 1 output 3ch video amplifier . Internal LPF is progressive correspondence. Also the High Definition (30MHz) is realized by LPF through mode. It is the best for the video system corresponding to a component video signal or a RGB signal.

■PACKAGE OUTLINE

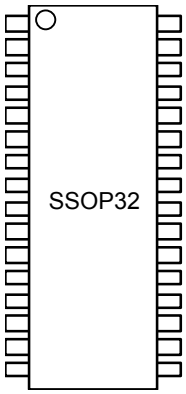


NJM2515V

■ FEATURES

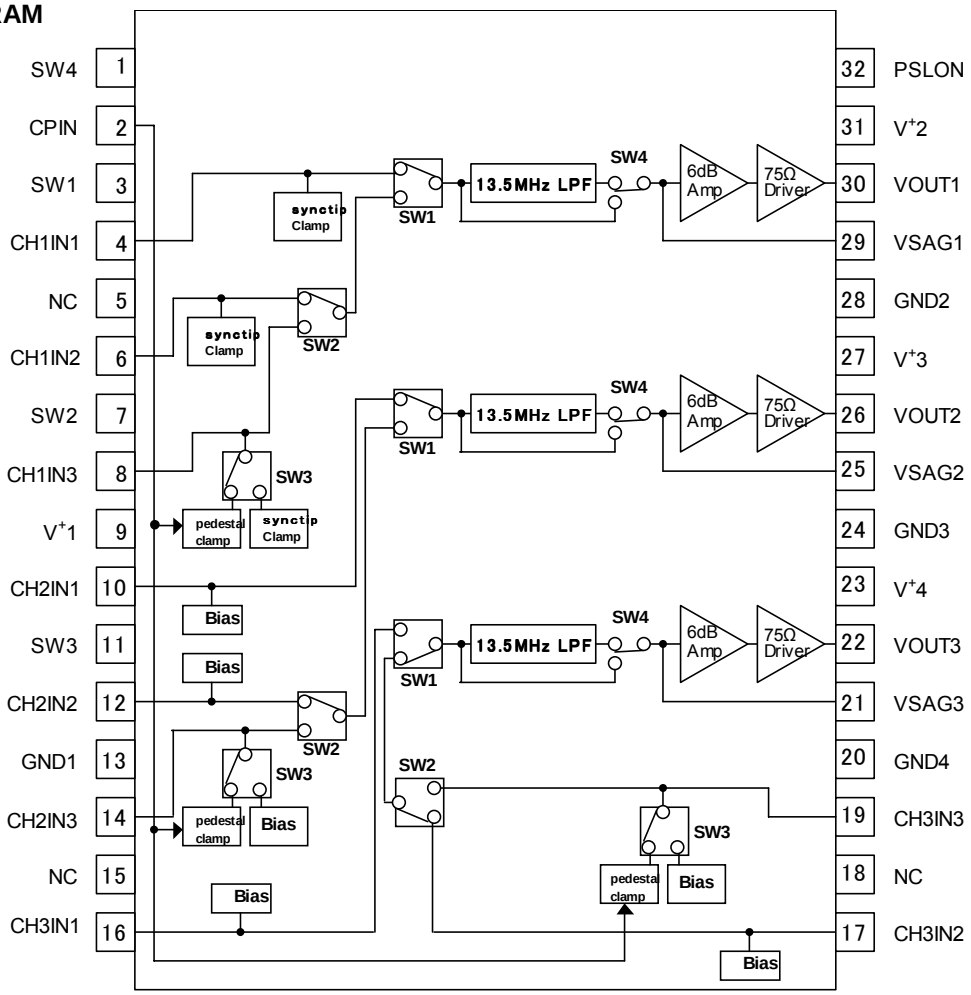
- Operating voltage 4.5 to 5.5V
- Internal 3ch 3-input 1-output video switch
- Internal LPF 0dBtyp.at 13.5MHz
- Internal LPF through switch 0dBtyp.at 34MHz
- Internal 6dB amplifier and 75ohm driver
- Internal Power Save circuit
- Bipolar technology
- Package outline SSOP32

■PIN CONFIGURATION



1.	SW4	17.	CH3 IN2
2.	CPIN	18.	NC
3.	SW1	19.	CH3 IN3
4.	CH1 IN1	20.	GND4
5.	NC	21.	VSAG3
6.	CH1 In2	22.	VOUT3
7.	SW2	23.	V^+4
8.	CH1 IN3	24.	GND3
9.	V^+1	25.	VSAG2
10.	CH2 IN1	26.	VOUT2
11.	SW3	27.	V^+3
12.	CH2 IN2	28.	GND2
13.	GND1	29.	VSAG1
14.	CH2 IN3	30.	VOUT1
15.	NC	31.	V^+2
16.	CH3 IN1	32.	PSLON

■ BLOCK DIAGRAM



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

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	10.0	V
Power Dissipation	P_D	1250*	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstr	-40 to +150	°C

*EIA/JEDEC STANDARD Test Board (76.2x114.3x1.6mm,4layers,FR-2)mounting

■ **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** ($V^+1= V^+2= V^+3= V^+4$=5V, RL=150ohm, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current	I_{CC}	V^+1 to V^+4,No signal	-	27	40	mA
Supply Current with Power Save Mode	Isave	V^+1 to V^+4,No signal, Power save mode	-	0.6	1.3	mA
Maximum Output Level 1	Vomy	Vin=100kHz sin-signal, THD=1% Select to sync-chip clamp	2.4	2.5	-	Vp-p
Maximum Output Level 2	Vom PbPr	Vin=100kHz sin-signal,THD=1% Select to bias	2.4	2.5	-	Vp-p
Maximum Output Level 3	Vom RGB	Vin=100kHz sin-signal,THD=1% Select to pedestal clamp	1.8	1.9	-	Vp-p
Voltage Gain	Gv	Vin=1MHz, 1.0Vp-p sin-signal	6.0	6.4	6.8	dB
Voltage Gain Difference between Input Terminal	ΔGvI	Vin=1MHz, 1.0Vp-p sin-signal, IN1 to IN2 to IN3 for all channel	-0.2	0	0.2	dB
Voltage Gain Difference between Channel	ΔGvB	Vin=1MHz, 1.0Vp-p sin-signal, CH1 to CH2 to CH3	-0.2	0	0.2	dB
LPF Characteristics 1	Gf13.5M	13.5MHz/1MHz, 1.0Vp-p, sin-signal	-3.0	0	1.0	dB
LPF Characteristics 2	Gf54M	54MHz/1MHz, 1.0Vp-p, sin-signal	-	-40	-	dB
Frequency Characteristics	Gf	Vin=34MHz/1MHz,1.0Vp-p sin-signal, setect to LPF through mode	-	0	-	dB
Closstalk between Input Terminal 1	CT-I1	Vin=4.43MHz,1.0Vp-p sin-signal, IN1 to IN2 to IN3 for all channel	-	-70	-	dB
Closstalk between Input Terminal 2	CT-I2	Vin=30MHz,1.0Vp-p sin-signal, IN1 to IN2 to IN3 for all channel	-	-50	-	dB
Closstalk between Channel 1	CT-B1	Vin=4.43MHz,1.0Vp-p sin-signal, CH1 to CH2 to CH3	-	-70	-	dB
Closstalk between Channel 2	CT-B2	Vin=30MHz,1.0Vp-p sin-signal, CH1 to CH2 to CH3	-	-50	-	dB
Differential Gain	DG	Vin=1.0Vp-p,10step video signal	-	0.5	-	%
Differential Phase	DP	Vin=1.0Vp-p,10step video signal	-	0.3	-	deg
S/N Ratio	SN	Vin=1.0Vp-p,100% white video signal,100KHz to 6MHz	-	70	-	dB

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■ **ELECTRICAL CHARACTERISTICS** ($V^+1= V^+2= V^+3= V^+4=5V$, RL=150ohm, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Switch High level for power save	VthPH	PS	2.0	-	V^+	V
Switch Low level for power save	VthPL	PS	0	-	0.6	V
Switch High level for input signal switch	VthSH	SW1, SW2	2.0	-	V^+	V
Switch High level for input signal switch	VthSL	SW1, SW2	0	-	0.6	V
High level for CP IN	Vth CPH		2.0	-	V+	V
Low level for CP IN	Vth CPL		0	-	0.6	V

■ **CONTROL SIGNAL**

TERMINAL	CONTROL	NOTE
PS	H	Power save: OFF (Operation)
	L	Power save: ON (Mute)
	OPEN	Power save: ON (Mute)

TERMINAL	CONTROL		NOTE
	SW1	SW2	
SW 1,SW2	L, OPEN	X	IN1 (X=don't care)
	H	L, OPEN	IN2
	H	H	IN3

TERMINAL	CONTROL	NOTE
SW 3	H	Y,Pb,Pr (CH1IN3: Sync Tip Clamp CH2IN3/CH3IN3: Bias)
	L	RGB (CH1IN3/CH2IN3/CH3IN3: Pedestal Clamp)
	OPEN	RGB (CH1IN3/CH2IN3/CH3IN3: Pedestal Clamp)

TERMINAL	CONTROL	NOTE
SW4	H	LPF
	L	Through
	OPEN	Through

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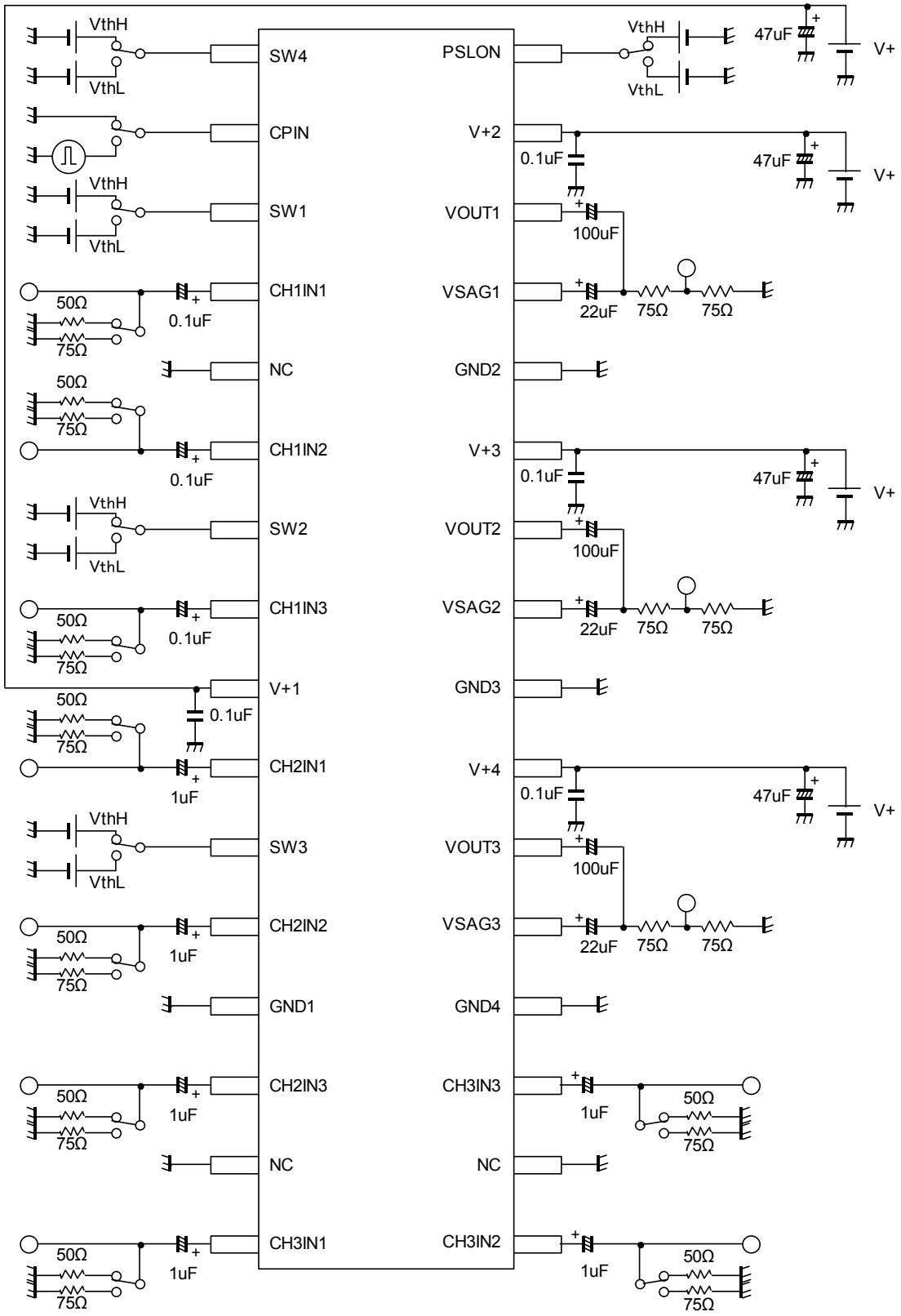
■ **TEST CIRCUIT**



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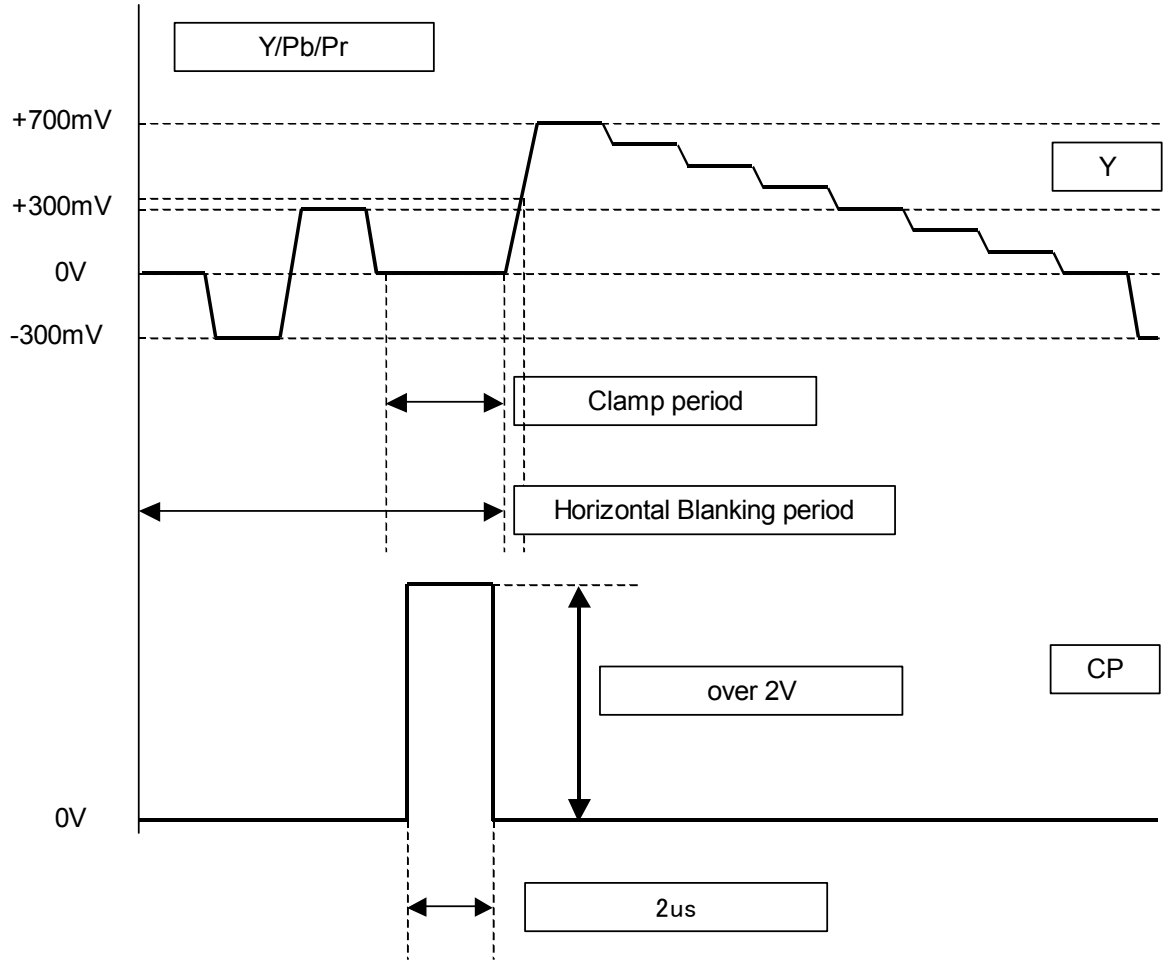
■ **APPLICATION**

Select of a pedestal-clamp (SW3: L, OPEN) set up a RGB signal input.
Please input a clamp pulse to the timing, which synchronized with the input signal. Please input a clamp pulse in the back porch.
Select of sync- tip-clamp (SW3: H) set up a COMPONENT signal input.
Please do not input a clamp pulse, when a component signal and a clamp pulse are asynchronous.
Refer to the following.



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