

Low Voltage Video Amplifier with Y/C MIX and Filter

■ GENERAL DESCRIPTION

NJM2567 is a low voltage operating video amplifier included LPF,BPF In Y and C system.

Output with 75ohm driver optimize the TV monitor system.

The NJM2567 includes power saving circuit, suitable for portable video Application, camcorder and others.

■ PACKAGE OUTLINE

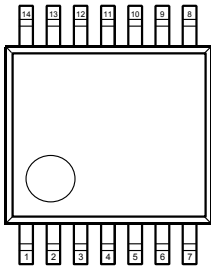


NJM2567V

■ FEATURES

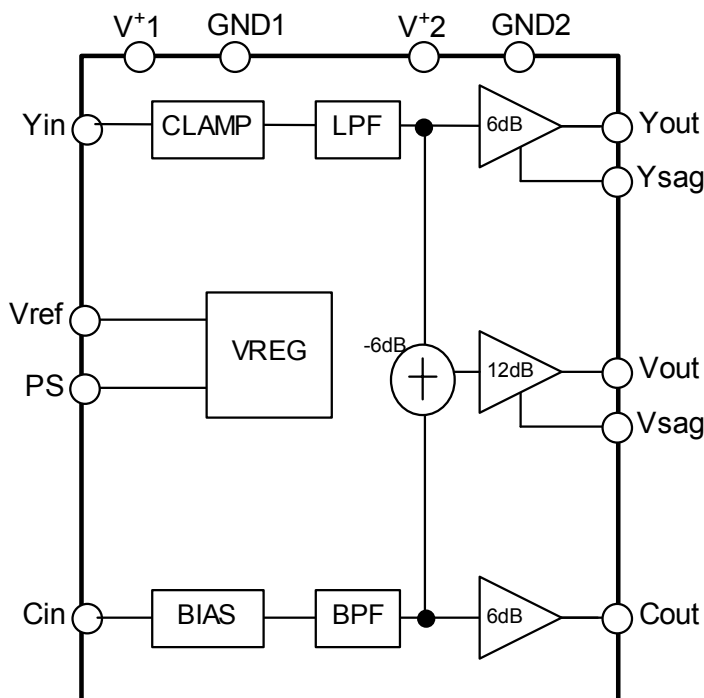
- Operating Voltage 2.8 to 5.5V
- Internal 6dB Amp. and 75ohm Driver
- Internal LPF(Y),BPF(C)
- Bipolar technology
- Package Outline SSOP14

■ PIN CONFIGURATION



- | | |
|---------------|----------|
| 1. V+1 | 8. Cout |
| 2. NC | 9. GND2 |
| 3. Yin | 10. Vsag |
| 4. Vref | 11. Vout |
| 5. Cin | 12. V+2 |
| 6. GND1 | 13. Ysag |
| 7. Power Save | 14. Yout |

■ BLOCK DIAGLAM



NJM2567

■ ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	7.0	V
Power Dissipation	P _D	300	mW
Operating Temperature Range	T _{opr}	-40 to +85	°C
Storage Temperature Range	T _{stg}	-40 to +125	°C

■ RECOMMENDED OPEARATING CONDITION(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	MIN.	TYP.	MAX.	UNIT
Operating Voltage 1	Vopr1	V ⁺ 1	2.8	-	5.5	V
Operating Voltage 2	Vopr2	V ⁺ 2	2.8	-	5.5	V

■ ELECTRICAL CHARACTERISTICS ($V^+1=V^+2=3V$, Powersave=3V, $R_L=150\Omega$, $T_a=25^\circ\text{C}$ at non-designation)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Circuit 1	I_{CC1}	$V^+1=5.0V$, No signal	-	12.0	16.0	mA
Operating Circuit 2	I_{CC2}	$V^+2=5.0V$, No signal	-	10.0	15.0	mA
Operating Circuit 1 at Power Save	I_{save1}	$V^+1=5.0V$, Power Save Mode	-	40	80	μA
Operating Circuit 2 at Power Save	I_{save2}	$V^+2=5.0V$, Power Save Mode	-	0	5	μA
Voltage Gain (Y Signal)	G_{vy}	$Y_{in}=100\text{kHz}$, 1.0Vpp Input Sin Signal	6.1	6.5	6.9	dB
Voltage Gain (C Signal)	G_{vc}	$Y_{in}=4.43\text{MHz}$, 0.3Vpp Input Sin Signal	6.1	6.5	6.9	dB
Voltage Gain (V Signal)	G_{vv}	$Y_{in}=100\text{kHz}$, 1.0Vpp Input Sin Signal	6.1	6.5	6.9	dB
Frequency Characteristics	G_{fy1}	$Y_{in}=6\text{MHz}/100\text{kHz}$, 1.0Vpp Input Sin Signal	-0.5	0	+0.5	dB
	G_{fy2}	$Y_{in}=20\text{MHz}/100\text{kHz}$, 1.0Vpp Input Sin Signal	-	-25	-	
	G_{fc1}	$C_{in}=\pm 1\text{MHz}/4.43\text{MHz}$, 0.3Vpp Input Sin Signal	-0.5	0	+0.5	
	G_{fc2}	$C_{in}=20\text{MHz}/4.43\text{MHz}$, 0.3Vpp Input Sin Signal	-	-25	-	
Group Delay Characteristic (Y Signal)	T_{dY}	$Y_{in}=4.43\text{MHz}$, Sin Signal	-	60	-	ns
Group Delay Characteristic (C Signal)	T_{dC}	$C_{in}=4.43\text{MHz}$, Sin Signal	-	60	-	ns
Maximum Output Voltage Swing (Y Signal)	V_{oym}	$Y_{in}=100\text{kHz}$, Sin Signal, THD=1%, $R_L=75\Omega$	1.1	1.2	-	Vp-p
Maximum Output Voltage Swing (C Signal)	V_{ocm}	$C_{in}=4.43\text{MHz}$, Sin Signal, THD=1%, $R_L=75\Omega$	0.7	1.1	-	Vp-p
Maximum Output Voltage Swing (V Signal)	V_{ovm}	$Y_{in}=100\text{kHz}$, Sin Signal, THD=1%, $R_L=75\Omega$	1.1	1.2	-	Vp-p
Differential Gain(Y Signal)	DG_y	$Y_{in}=1.0V_{pp}$, 10Step video signal, measure the Y_{out} .	-	0.3	-	%
Differential Phase(Y Signal)	DP_y	$Y_{in}=1.0V_{pp}$, 10Step video signal, measure the Y_{out} .	-	0.3	-	deg
Differential Gain(V Signal)	DG_v	$Y_{in}=1.0V_{pp}$, $C_{in}=0.3V_{pp}$, 10Step video signal, measure the V_{out} .	-	0.3	-	%
Differential Phase(V Signal)	DP_v	$Y_{in}=1.0V_{pp}$, $C_{in}=0.3V_{pp}$, 10Step video signal, measure the V_{out} .	-	0.3	-	deg
SW Change Voltage High Level for Power Save	V_{CH}	Active	1.4	-	V^+	V
SW Change Voltage Low Level for Power Save	V_{CL}	Non-active	0	-	0.6	V

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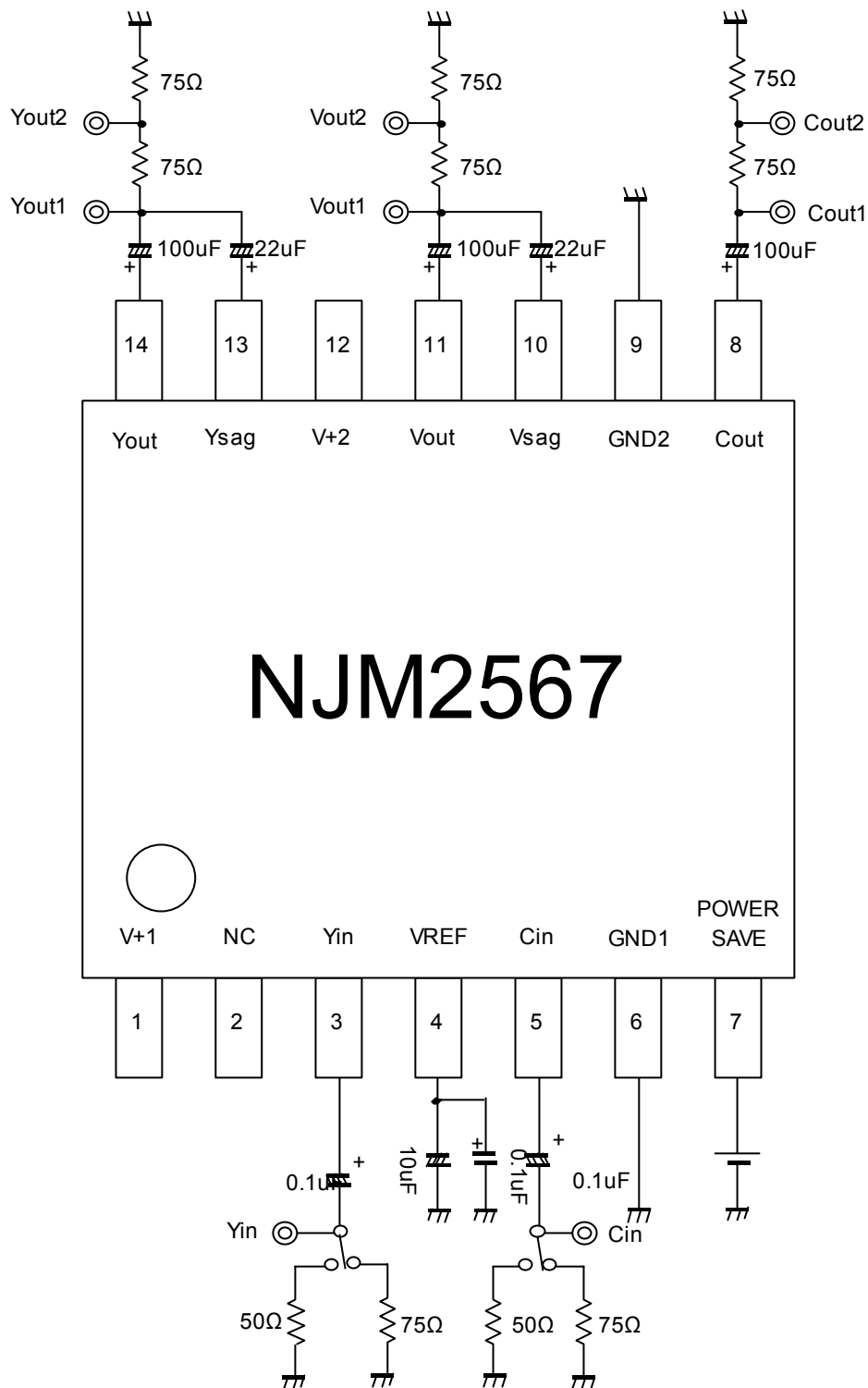
■ ELECTRICAL CHARACTERISTICS ($V^+1 = V^+2 = 3V$, Powersave=3V, $R_L = 150\Omega$, $T_a = 25^\circ C$ at non-designation)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Crosstalk 1(Yin to Cout)	CTyc	Yin to Cout=20log(Cout/Yout) Yin=4.43MHz, 1.0Vpp Sin Signal, Cin=AC GND	-	-50	-	dB
Crosstalk 2(Cin to Yout)	CTcy	Cin to Yout=20log(Yout/Cout) Cin=4.43MHz, 0.3Vpp Sin Signal, Yin=AC GND	-	-50	-	dB
S/N1(Y Signal)	SNy	Yin=100% White Video Signal, $R_L = 75\Omega$ at Yout Bandwidth 100kHz to 6MHz	-	60	-	dB
S/N2(C Signal)	SNc1	Cin=100% Red Field Video Signal, $R_L = 75\Omega$ at Cout, AM Noise Bandwidth 100kHz to 500kHz	-	60	-	dB
S/N3(C Signal)	SNc2	Cin=100% Red Field Video Signal, $R_L = 75\Omega$ at Cout, PM Noise Bandwidth 100kHz to 500kHz	-	60	-	dB
S/N4 (V Signal)	SNv	Yin=100% White Video Signal, $R_L = 75\Omega$ at Vout Bandwidth 100kHz to 6MHz	-	60	-	dB
2nd. Distortion 1 (Y Signal)	Hy	Yin=1MHz, 1.0Vpp Input Sin Signal	-	-50	-	dB
2nd. Distortion 2 (C Signal)	Hc	Cin=4.43MHz, 0.3Vpp Input Sin Signal	-	-50	-	dB
2nd. Distortion 3 (V Signal)	Hv	Yin=1MHz, 1.0Vpp Input Sin Signal	-	-50	-	dB

■ CONTROL TERMINAL

PARAMETER	CONTROL	NOTES
Power Save	H	Power Save: OFF
	L	Power Save: ON
	OPEN	Power Save: ON

TEST CIRCUIT



[CAUTION]
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