

LOW VOLTAGE 3ch VIDEO AMPLIFIER WITH LPF

■ GENERAL DESCRIPTION

The **NJM2573** is a Low Voltage 3ch Video Amplifier with LPF. Internal 75Ω driver is easy to connect TV monitor directly.

The **NJM2573** corresponds to a clamp and bias inputs, and selection of a clamp/ bias is possible for one circuit, and it corresponds to various video signals.

The **NJM2573** features low power and small package, and is suitable for low power design on downsizing of DVC.

■ PACKAGE OUTLINE

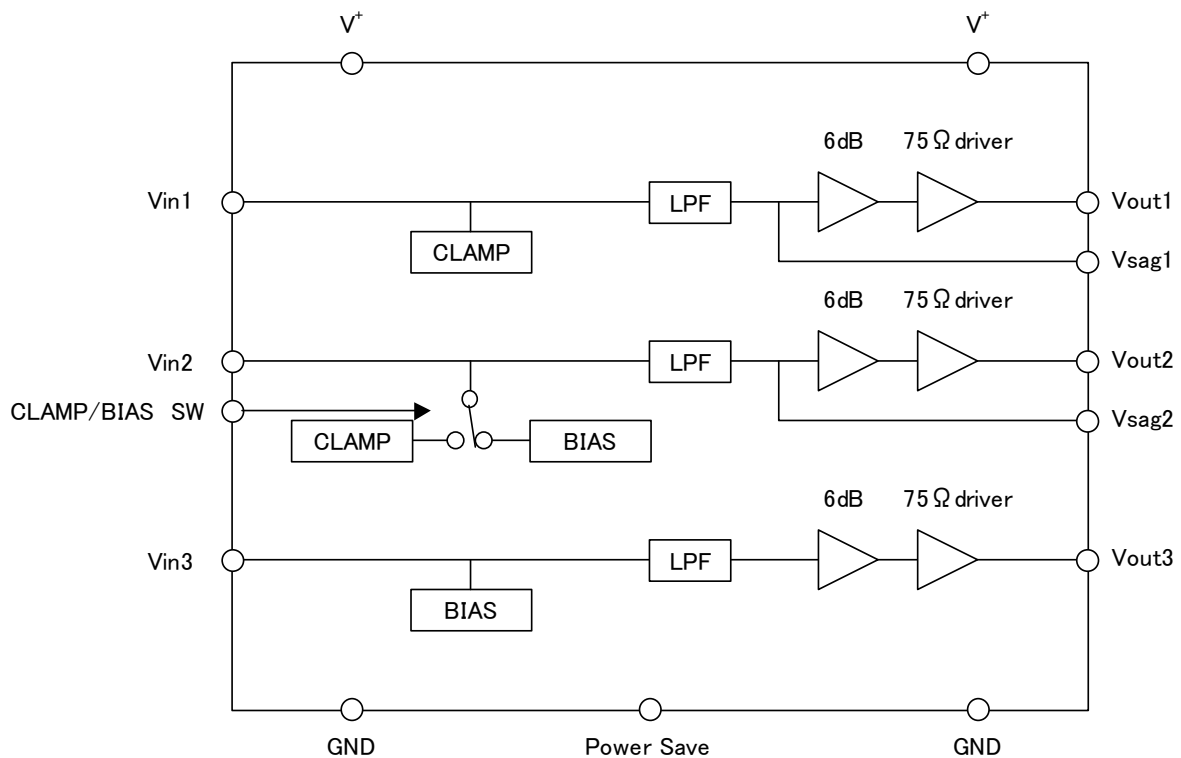


NJM2573V

■ FEATURES

- Operating Voltage 2.8 to 5.5V
- Input type Vin1: CLAMP
 Vin2: CLAMP/ BIAS
 Vin3: BIAS
- Internal LPF
- Internal 6dB amplifier
- Internal 75Ω Driver Circuit (2-system drive)
- Internal Power Saving Circuit
- Bipolar Technology
- Package Outline SSOP14

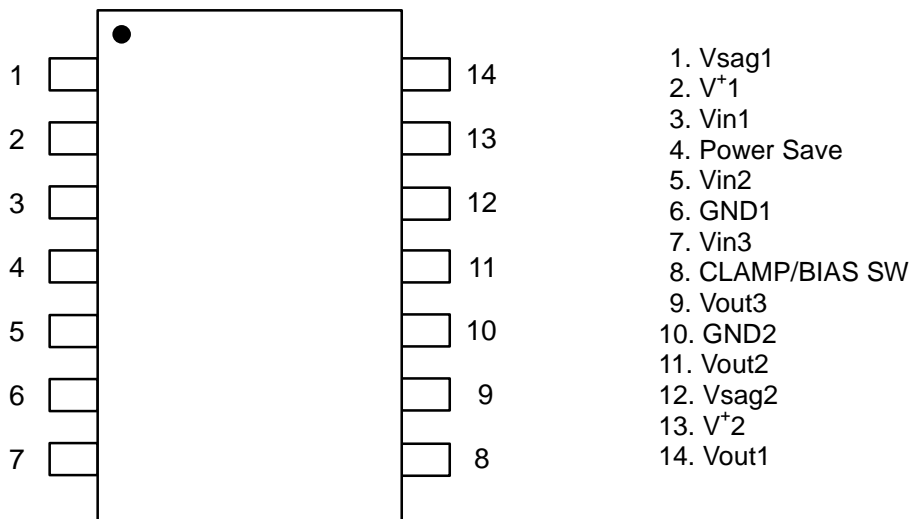
■ BLOCK DIAGRAM



NJM2573

■PIN CONFIGURATION

SSOP14



■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 |

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

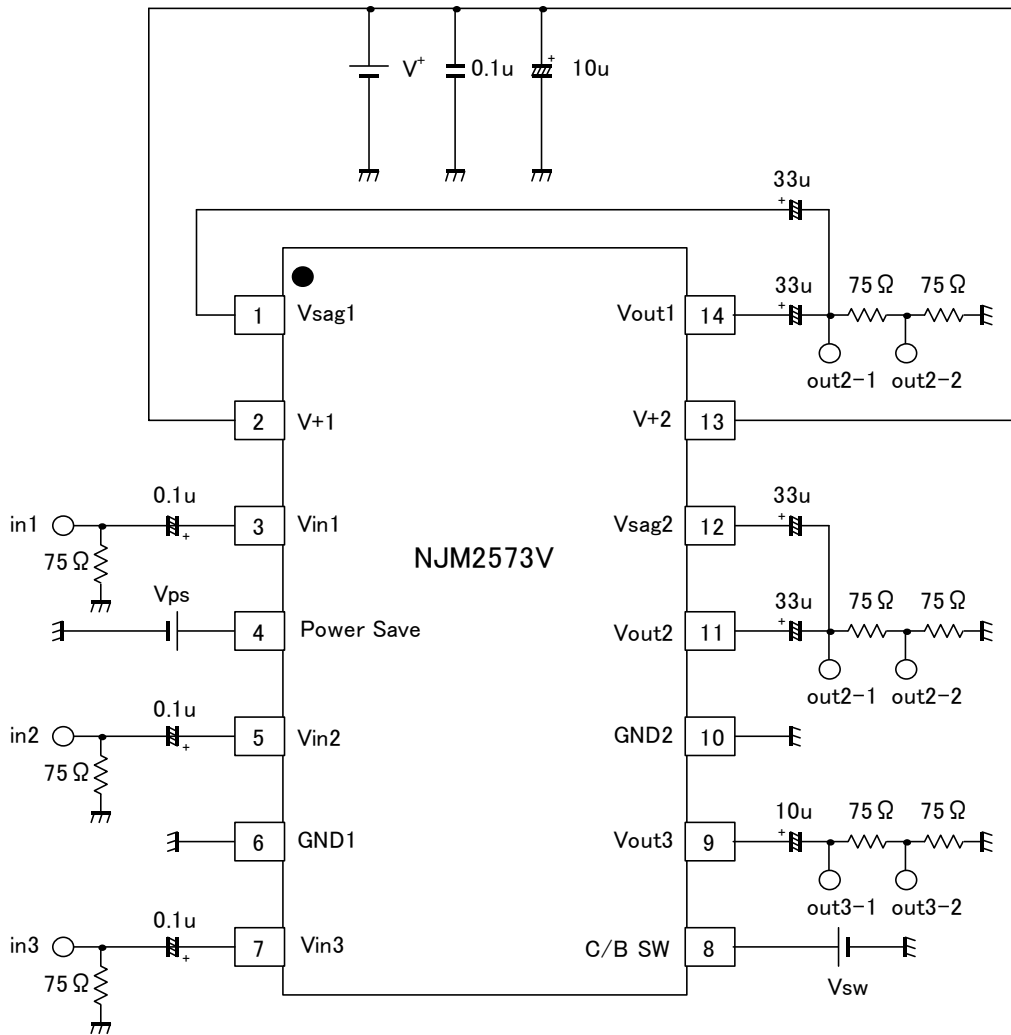
| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|---------------------------------|------------------------|---|------|------|----------------|------|
| Operating Voltage | V _{opr} | | 2.8 | 3.0 | 5.5 | V |
| Operating Current | I _{CC} | No Signal | - | 18.0 | 26.0 | mA |
| Operating Current at Power Save | I _{save} | Power Save Mode | - | 60 | 90 | uA |
| Maximum Output Voltage Swing | V _{omv} | f=1kHz, THD=1%, CLAMP Input | 2.2 | 2.4 | - | Vp-p |
| | V _{om} RGB | f=1kHz, THD=1%, BIAS Input | 1.4 | 2.2 | - | |
| Voltage Gain | G _v | Vin=100kHz, 1.0Vp-p, Sin Signal (CLAMP) Vin=100kHz 0.7Vp-p, Sin Signal (BIAS) | 6.0 | 6.4 | 6.8 | dB |
| Low Pass Filter Characteristic | G _{fy4.5M} | Vin=4.5MHz/100kHz, 1.0Vp-p(CLAMP) Vin=4.5MHz/100kHz, 0.7Vp-p(BIAS) | -0.5 | 0.0 | +0.5 | dB |
| | G _{fy8M} | Vin=8MHz/100kHz, 1.0Vp-p(CLAMP) Vin=8MHz/100kHz, 0.7Vp-p(BIAS) | - | -2.0 | - | |
| | G _{fy16M} | Vin=16MHz/100kHz, 1.0Vp-p(CLAMP) Vin=16MHz/100kHz, 0.7Vp-p(BIAS) | - | -12 | - | |
| Cross talk | CT | Vin=4.43MHz, 1.0Vp-p, Sin Signal (CLAMP) Vin=4.43MHz 0.7Vp-p, Sin Signal (BIAS) | - | -65 | - | dB |
| Differential Gain | DG | (CLAMP) Vin=1.0Vp-p Input 10step Video Signal | - | 0.2 | - | % |
| Differential Phase | DP | (CLAMP) Vin=1.0Vp-p Input 10step Video Signal | - | 0.2 | - | deg |
| S/N Ratio | SN _v | (CLAMP) Vin=1.0Vp-p, 100% White Video Signal (BIAS) Vin=0.7Vp-p, 100% Red field Signal | - | +60 | - | dB |
| 2nd. Distortion | H _v | (CLAMP) Vin=1.0Vp-p, 3.58MHz, Sin Signal, R _L =75Ω (BIAS) Vin=0.7Vp-p, 3.58MHz, Sin Signal, R _L =75Ω | - | -40 | - | dB |
| SW Change Voltage High Level | V _{thPH} | | 1.8 | - | V ⁺ | V |
| SW Change Voltage Low Level | V _{thPL} | | 0 | - | 0.3 | |

■CONTROL TERMINAL

| PARAMETER | STATUS | NOTE |
|---------------|--------|-----------------|
| Power Save | H | Power Save: ON |
| | L | Power Save: OFF |
| | OPEN | Power Save: OFF |
| CLAMP/BIAS SW | H | BIAS |
| | L | CLAMP |
| | OPEN | CLAMP |

NJM2573

TEST CIRCUIT



■EQUIVALENT CIRCUIT

| PIN No. | PIN NAME | FUNCTION | INSIDE EQUIVALENT CIRCUIT |
|---------|------------|------------------|---------------------------|
| 3 | VIN1 | Clamp input | |
| 4 | Power Save | Power save | |
| 5 | Vin2 | Clamp/Bias input | |
| - | NC | Non connection | |
| 6 | GND1 | GND | |
| 7 | Vin3 | Bias input | |

NJM2573

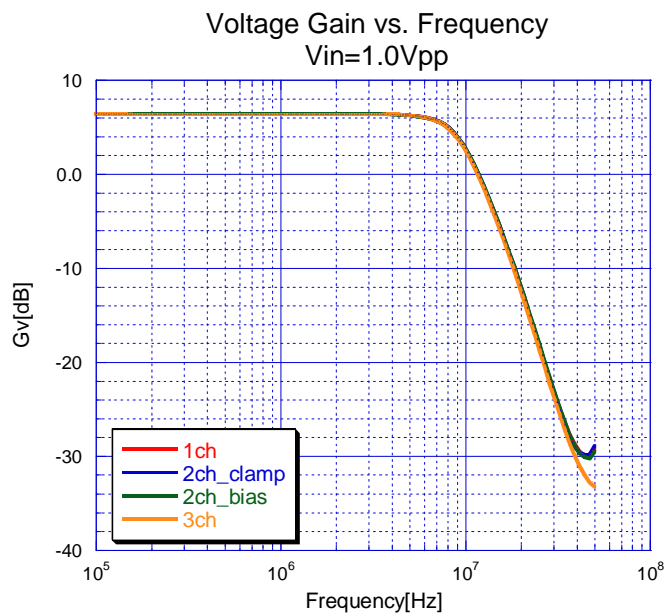
| PIN No. | PIN NAME | FUNCTION | INSIDE EQUIVALENT CIRCUIT |
|---------|-------------------|-------------------|---------------------------|
| 8 | CLAMP/ BIAS SW | Clamp/Bias switch | |
| 9 | Vout3 | Bias output | |
| 10 | GND2 | GND | |
| 11 | Vout2 | Clamp/Bias output | |
| 12 | Vsag2 | Sag compensation | |
| 13 | V+2 | Power Supply | |

| PIN No. | PIN NAME | FUNCTION | INSIDE EQUIVALENT CIRCUIT |
|---------|----------|------------------|---------------------------|
| 14 | Vout1 | Clamp output | |
| 1 | Vsag1 | Sag compensation | |
| - | NC | Non connection | |
| 2 | V+1 | Power Supply | |

■ APPLICATION

When the power supply voltage is not impressing, please don't impress voltage to the control terminal.

TYPICAL CHARACTERISTICS



[CAUTION]
The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.