

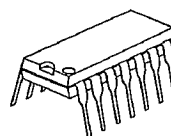
AUDIO FILTER AMPLIFIER

■ GENERAL DESCRIPTION

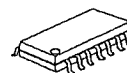
The NJM2127 is a dual audio filter amplifier for digital audio. It includes two-channel differential input amplifier, capacitors, and resistors for Low Pass Filter. It also includes standby function which applies to low consumption power design.

It is suitable for CD, CD-ROM, DVD, and any other digital audio equipments.

■ PACKAGE OUTLINE



NJM2127D



NJM2127M

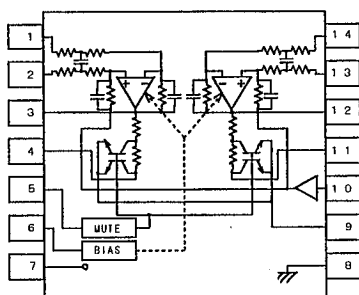


NJM2127V

■ FEATURES

- Single Supply
- Operating Voltage (V⁺=4.5~5.5V)
- Internal Differential Input Amplifier (Two channels)
- Internal C and R for LPF
- Standby Function
- Mute Function
- High S/N Ratio (95dB typ.)
- Bipolar Technology
- Package Outline DIP14, DMP14, SSOP14

■ PIN CONFIGURATION



NJM2127D
NJM2127M
NJM2127V

PIN FUNCTION

- 1: IN-1 8: GND
- 2: IN+1 9: REF2
- 3: OUT1 10: REF1
- 4: MUTE1 11: MUTE 2
- 5: MUTE 12: OUT2
- 6: STANDBY 13: IN+2
- 7: V⁺ 14: IN-2

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|-----------------------------|------------------|---|------|
| Supply Voltage | V ⁺ | 12 | V |
| Power Dissipation | P _D | (DIP8) 700 (DMP8) 300 (SSOP8) 300 | mW |
| Operating Temperature Range | T _{OPR} | -25~+75 | °C |
| Storage Temperature Range | T _{STR} | -40~+125 | °C |

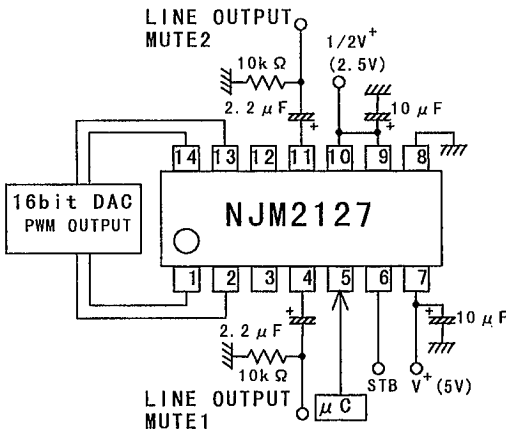
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■ ELECTRICAL CHARACTERISTICS (V⁺=5V, f=1kHz, V_i=1.5V_{rms}, V_{ref1}=2.5V, V_{ref2}=2.5V, R_L=10kΩ, T_a=25°C)

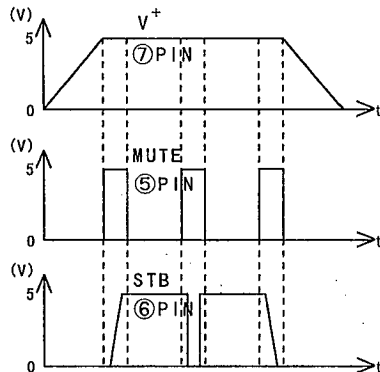
| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------|-------------------|--|------|-------|------|------|
| Operating Current | I _{cc1} | | — | 4.0 | 6.0 | mA |
| Standby Operating Current | I _{cc2} | 6pin=GND | — | 1 | — | mA |
| Voltage Gain1 | G _{v1} | | -7.6 | -6.6 | -5.6 | dB |
| Voltage gain2 | ΔG _{v2} | f=20kHz, Difference from G _{v1} | -1.8 | -0.4 | 0.6 | dB |
| Voltage Gain3 | G _{v3} | f=100kHz | — | -12.6 | — | dB |
| Channel Balance | ΔG _{v1} | at G _{v1} | -0.5 | 0 | 0.5 | dB |
| Total Harmonic Distortion | THD | V _o =0.2V _{rms} | — | 0.015 | 0.05 | % |
| S/N Ratio | S/N | CGIR/ARM, R _g =0Ω V _i =1.5V _{rms} reference | 89 | 95 | — | dB |
| Channel Separation | CS | Measuring CH: no signal, CGIR/ARM Other CH: V _i =1.5V _{rms} | 74 | 80 | — | dB |
| Mute Attenuation | ATT | V _i =1.5V _{rms} , 5pin=V ⁺ , 6pin=GND | 70 | 90 | — | dB |
| Output Offset Voltage Drift | V _{off} | at Mute ON/OFF | -10 | 0 | 10 | mV |
| Mute Voltage | V _{mute} | 5pin, at Mute | 3.5 | — | — | V |
| Standby Voltage | V _{stb} | 6pin, at Standby | — | — | 1.5 | V |

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■ APPLICATION CIRCUIT

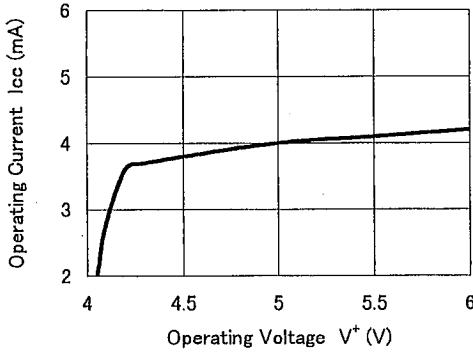


■ POWER ON TIMING CHART

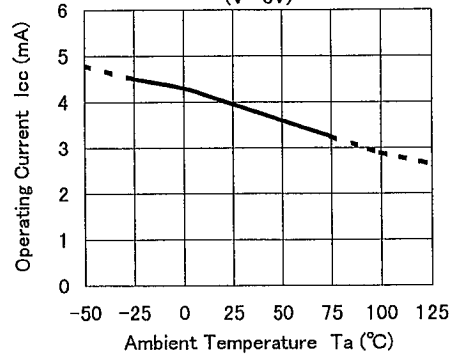


TYPICAL CHARACTERISTICS

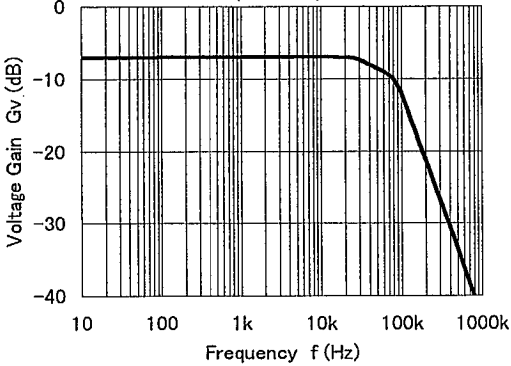
Operating Current vs. Operating Voltage
($T_a=25^\circ\text{C}$)



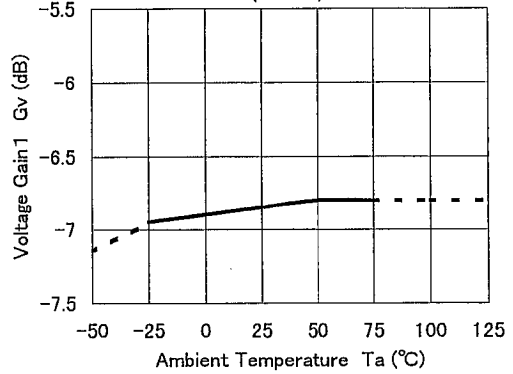
Operating Current vs. Temperature
($V^*=5\text{V}$)



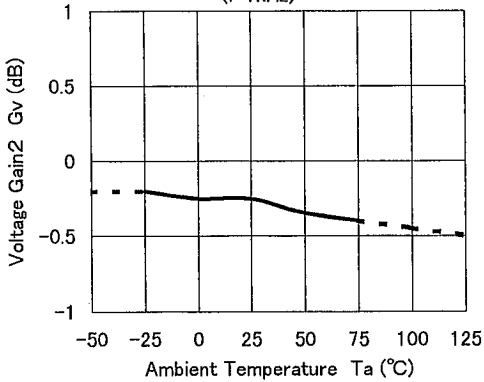
Voltage Gain vs. Frequency
($T_a=25^\circ\text{C}$)



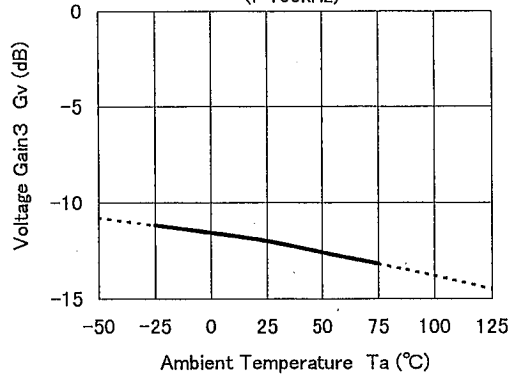
Voltage Gain1 vs. Temperature
($f=1\text{kHz}$)



Voltage Gain2 vs. Temperature
($f=1\text{kHz}$)



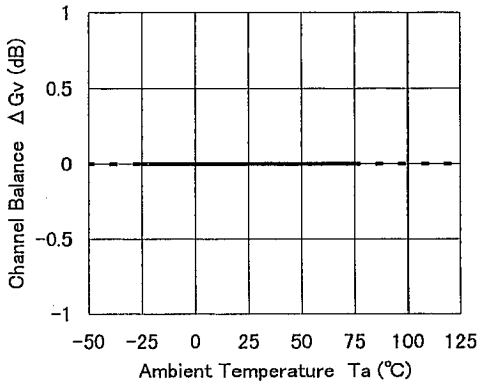
Voltage Gain3 vs. Temperature
($f=100\text{kHz}$)



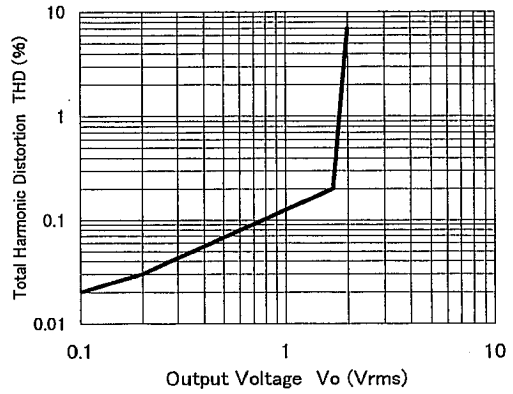
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■ TYPICAL CHARACTERISTICS

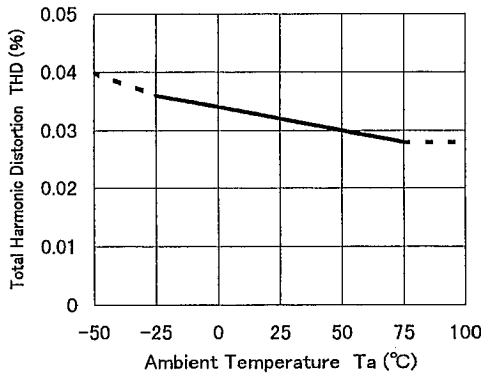
Channel Balance vs. Temperature
($f=1\text{kHz}$)



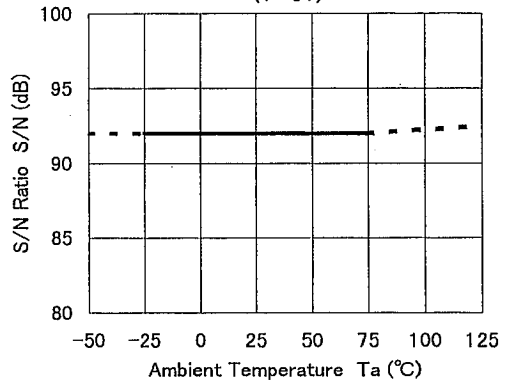
Total Harmonic Distortion vs. Output Voltage
($T_a=25^\circ\text{C}$)



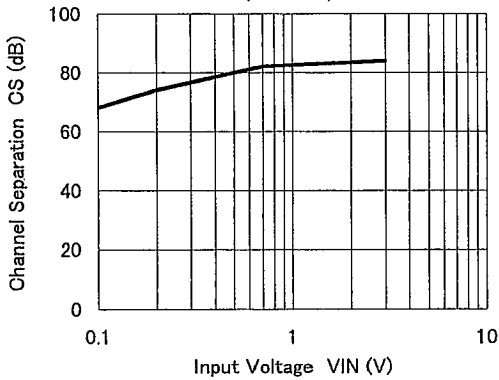
Total Harmonic Distortion vs. Temperature
($V_o=0.2\text{Vrms}$)



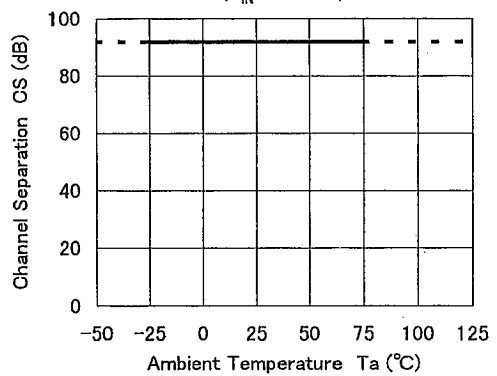
S/N Ratio vs. Temperature
($V^2=5\text{V}$)



Channel Separation vs. Input Voltage
($T_a=25^\circ\text{C}$)

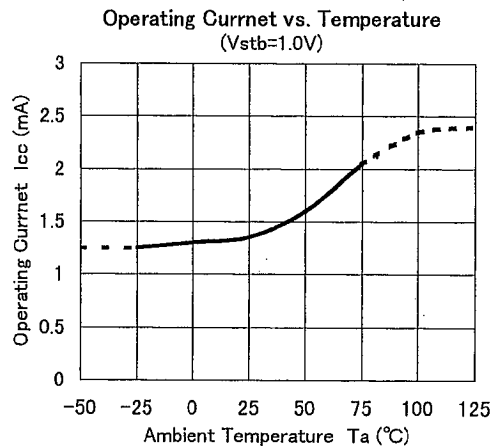
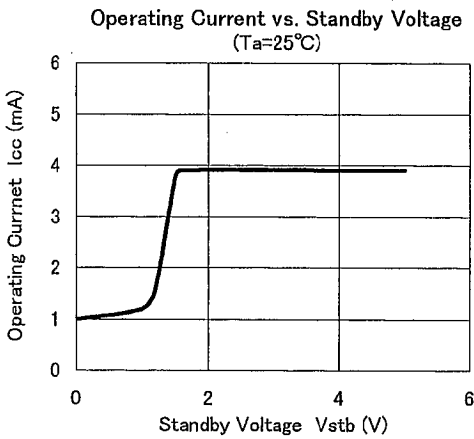
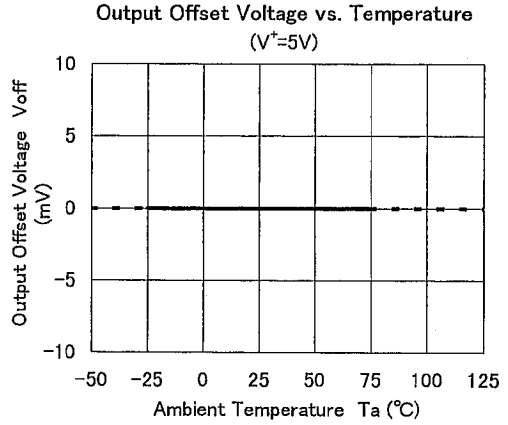
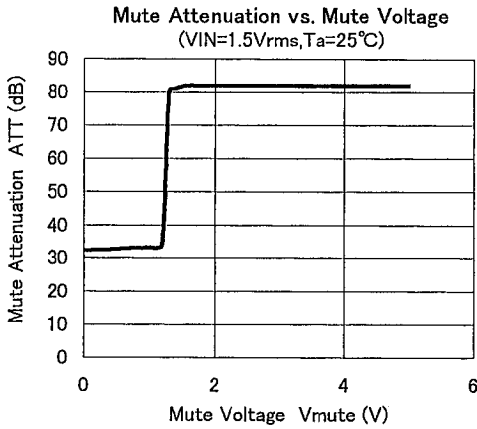
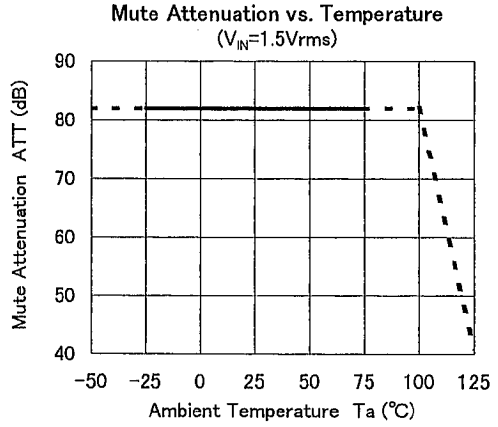
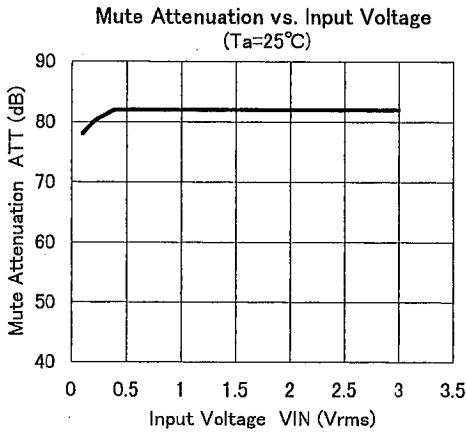


Channel Separation vs. Temperature
($V_{IN}=1.5\text{Vrms}$)



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TYPICAL CHARACTERISTICS



MEMO

[CAUTION]

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