

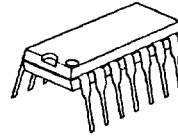
AUDIO FILTER AMPLIFIER

■ 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

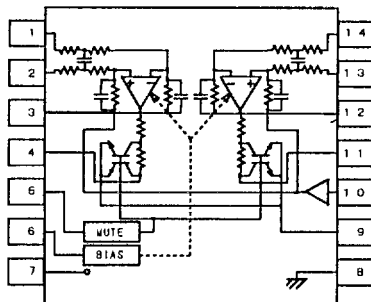
NJM2127M

NJM2127V

■ FEATURES

- Single Supply
- Operating Voltage $(V^+ = 4.5 \sim 5.5V)$
- Internal Differential Input Amplifier (Two channels)
- Internal C and R for LPF
- Standby Function
- Mute Function
- High S/N Ratio $(95dB \text{ typ.})$
- 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

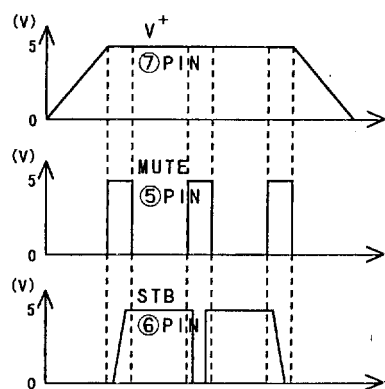
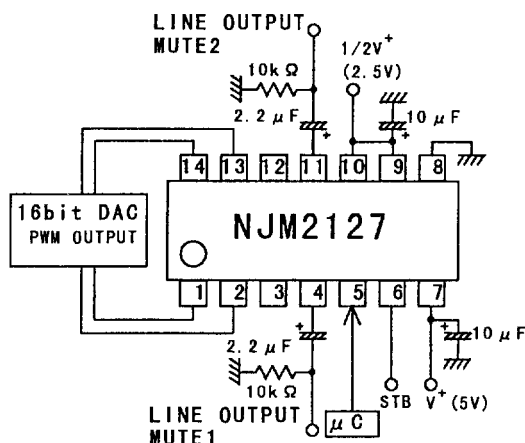
$(T_a = 25^\circ C)$

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}	$-25 \sim +75$	$^\circ C$
Storage Temperature Range	T_{STG}	$-40 \sim +125$	$^\circ C$

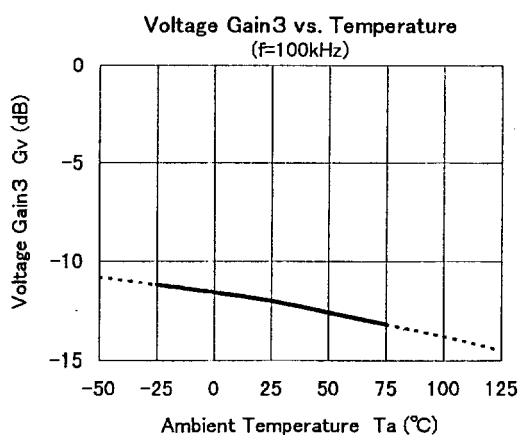
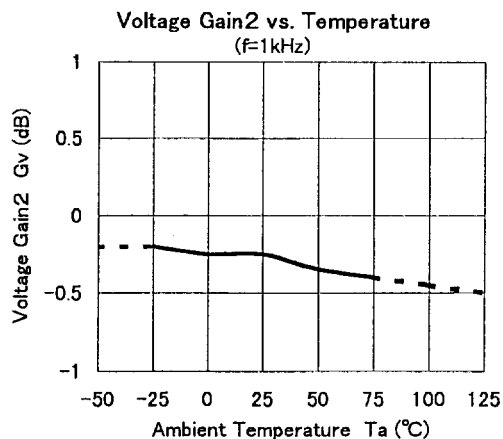
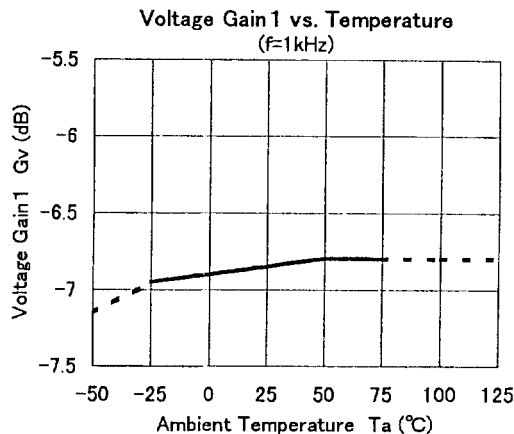
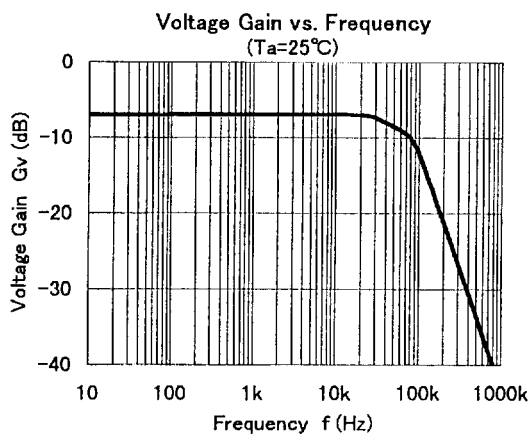
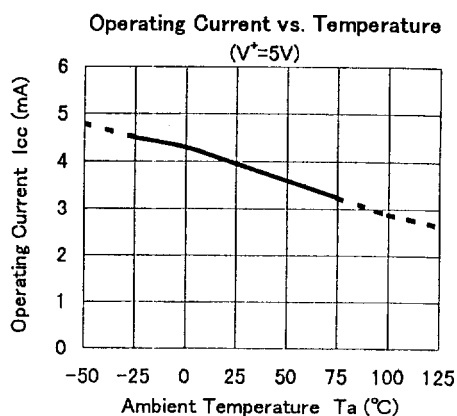
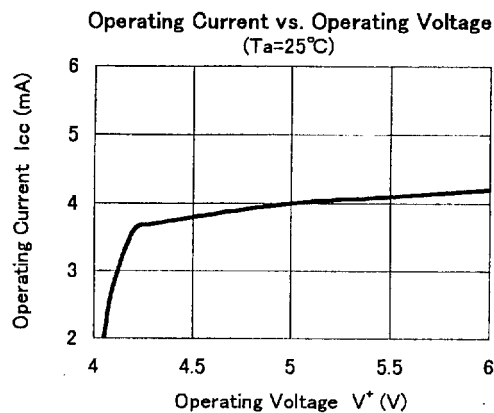
($V^+=5V$, $f=1kHz$, $V_i=1.5V_{rms}$, $V_{ref1}=2.5V$, $V_{ref2}=2.5V$, $R_L=10k\Omega$, $T_a=25^\circ C$)

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	Δ G _{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	Δ G _{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	CCIR/ARM, R _g =0Ω V _i =1.5V _{rms} reference	89	95	—	dB
Channel Separation	CS	Measuring CH:no signal, CCIR/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

■ POWER ON TIMING CHART

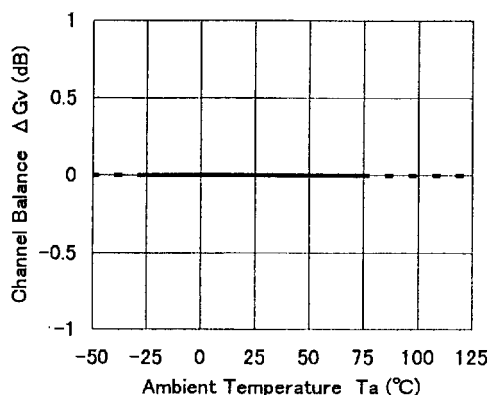


■ TYPICAL CHARACTERISTICS

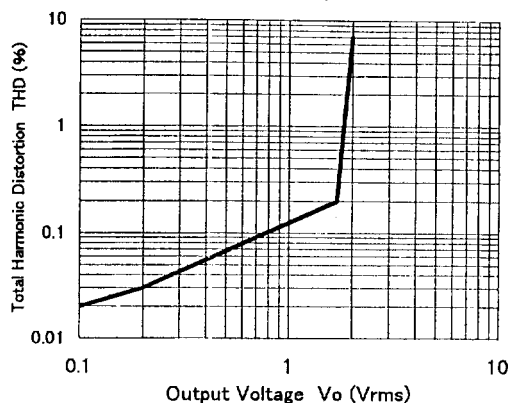


TYPICAL CHARACTERISTICS

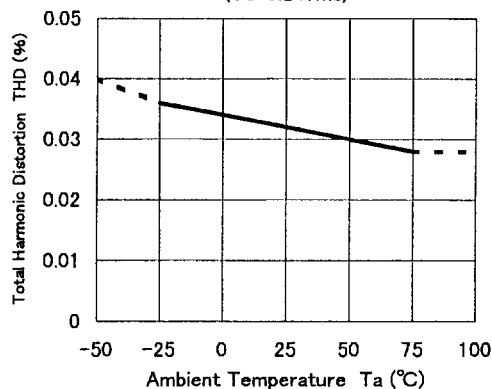
Channel Balance vs. Temperature
($f=1\text{kHz}$)



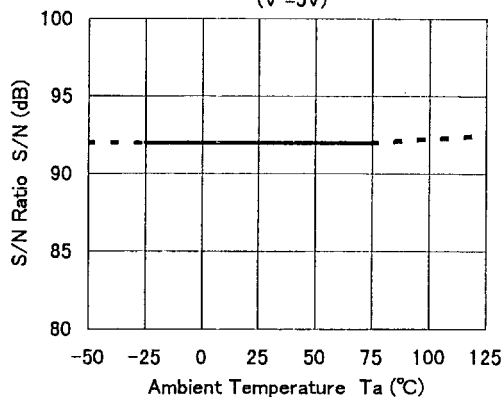
Total Harmonic Distortion vs. Output Voltage
($T_a=25^\circ\text{C}$)



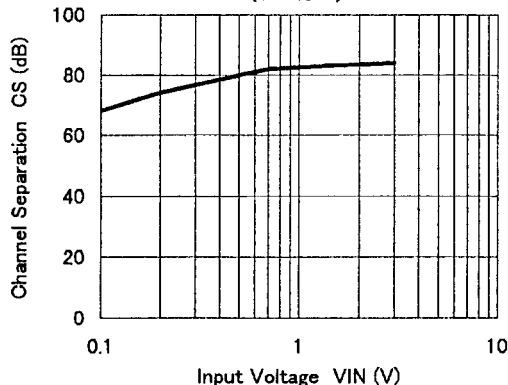
Total Harmonic Distortion vs. Temperature
($V_o=0.2\text{Vrms}$)



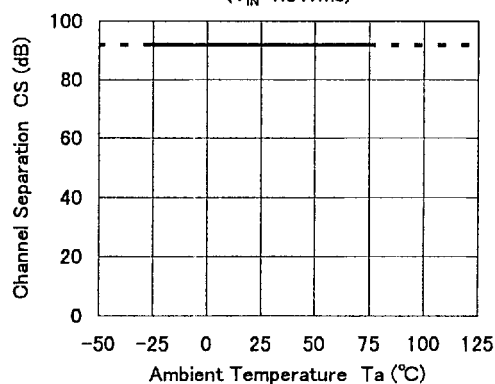
S/N Ratio vs. Temperature
($V^*=5\text{V}$)



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

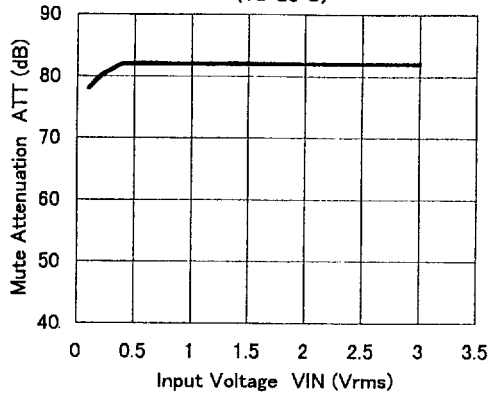


Channel Separation vs. Temperature
($V_{IN}=1.5\text{Vrms}$)

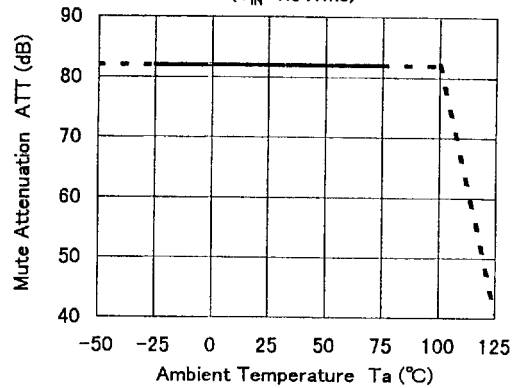


■ TYPICAL CHARACTERISTICS

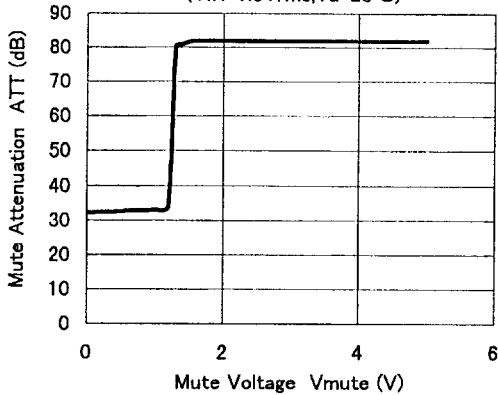
Mute Attenuation vs. Input Voltage
($T_a=25^\circ\text{C}$)



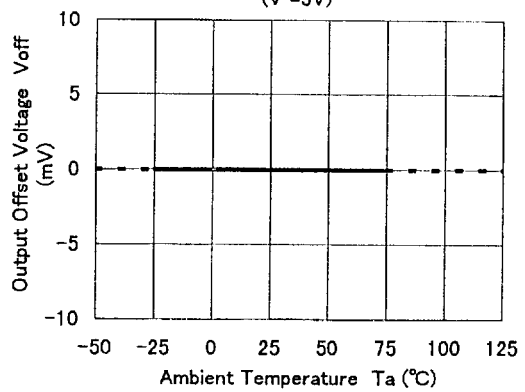
Mute Attenuation vs. Temperature
($V_{IN}=1.5\text{Vrms}$)



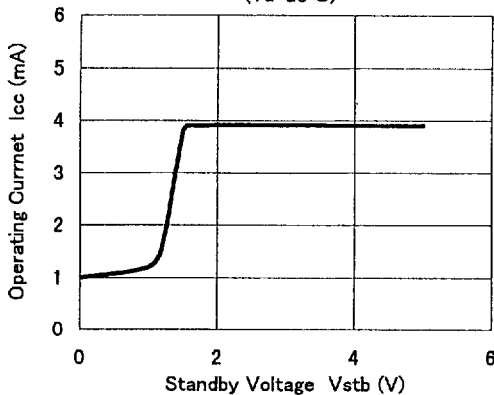
Mute Attenuation vs. Mute Voltage
($V_{IN}=1.5\text{Vrms}, T_a=25^\circ\text{C}$)



Output Offset Voltage vs. Temperature
($V^+=5\text{V}$)



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



Operating Current vs. Temperature
($V_{stb}=1.0\text{V}$)

