

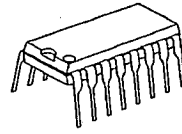
DUAL BOOST AMPLIFIER for CAR AUDIO

■ GENERAL DESCRIPTION

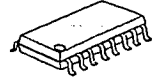
The NJM2160A is a dual boost amplifier designed for car audio system. It swings 14V peak-to-peak output voltage at 9V. It consists of two channel non-inverting amplifier with the gain of 8dB.

It is suitable for car audio system and other boost amplifier system.

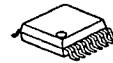
■ PACKAGE OUTLINE



NJM2160AD



NJM2160AM

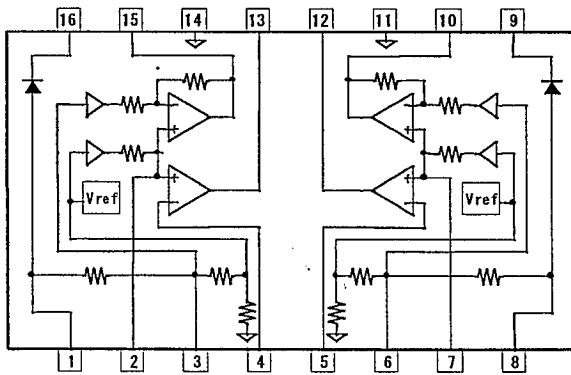


NJM2160AV

■ FEATURES

- Operating Voltage (+6—+12V)
- Operating Current (6mA typ.)
- Boost Output Function ($V_o=14V_{pp}$, @ $V^+=9V$)
- Supply Voltage Rejection Ratio (50dB typ.)
- Total Harmonic Distortion (0.003% typ.)
- Noise Output Voltage ($6\mu V_{rms}$ typ.)
- Bipolar Technology
- Package Outline DIP16, DMP16, SSOP16

■ PIN CONFIGURATION



NJM2160AD
NJM2160AM
NJM2160AV

PIN FUNCTION

1. V_{ccL}
2. +Lin
3. CRPL
4. -Lin
5. -Rin
6. CRPR
7. +Rin
8. V_{ccR}
9. +CR
10. -CR
11. GNDR
12. Rout
13. Lout
14. GNDL
15. -CL
16. +CL

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■ ABSOLUTE MAXIMUM RANGES (Ta=25°C)

PARAMETER	SYMBOL	RANGE	UNIT
Supply Voltage	V ⁺	+1.5	V
Output Current	I _o	2.0	mA
Power Dissipation	P _o	(D-Type) 700 (M, V-Type) 300	mW
Operating Temperature	T _{opr}	-40~+85	°C
Storage Temperature	T _{stg}	-40~+125	°C

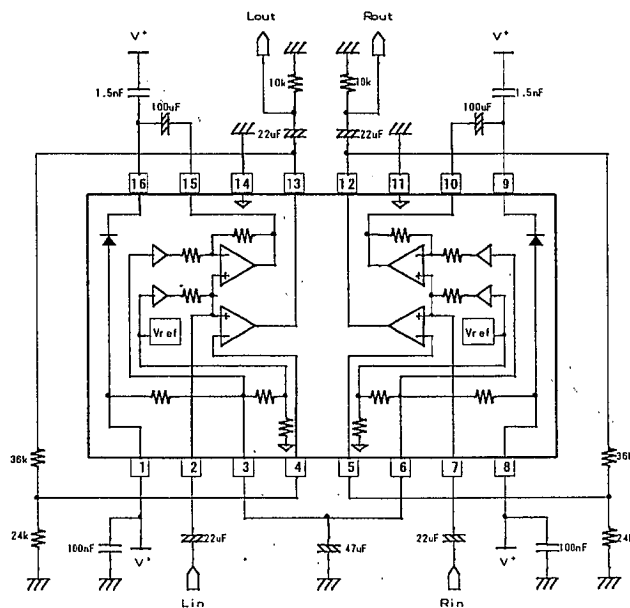
■ ELECTRICAL CHARACTERISTIC (V⁺=9V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MAX.	TYP.	MAX.	UNIT
DC CHARACTERISTIC						
Operating Voltage	V ⁺		6.0	9.0	12.0	V
Operating Current	I _{cc}	No Signal	—	6.0	8.0	mA
Output Voltage	V _{ODC}		—	7.8	—	V
AC CHARACTERISTIC (f=1kHz, R _L =10kΩ)						
Voltage Gain	A _v		7.5	8.0	8.5	dB
Channel Separation	CS	R _s =600Ω, V _o =1Vrms	70	75	—	dB
Channel Balance	BAL		—	—	0.5	dB
Roll-off Low Frequency	f _{RL}	-1dB	—	—	5	Hz
Roll-off High Frequency	f _{RH}	-1dB	20	—	—	kHz
Input Resistance	R _{IN}		22	30	38	kΩ
Output Resistance	R _{OUT}		—	—	10	Ω
Maximum Output Voltage	V _{OM}	THD=0.1%	5.0	5.2	—	Vrms
Noise Output Voltage	V _{no}	R _s =600Ω, A-Weighting	—	6	10	μV
Total Harmonic Distortion	THD1	f=1kHz, V _o =3Vrms, A-Weighting	—	0.003	0.01	%
	THD2	f=17Hz-20kHz, V _o =3Vrms, A-Weighting	—	0.01	—	%
Supply Voltage Rejection Ratio	SVR1	R _s =600Ω, f=1kHz, V _{RP} =100mVrms	55	—	—	dB
	SVR2	R _s =600Ω, f=20Hz-20kHz, V _{RP} =100mVrms	—	50	—	dB

■ PIN INFORMATION

PIN NUMBER	PIN NAME	PIN FUNCTION
1	V _{CCL}	Power Supply for Left Channel
2	+L _{in}	+Input of Left Channel
3	CR _{PL}	Capacitance for Left Channel Ripple Rejection
4	-L _{in}	-Input of Left Channel
5	-R _{in}	-Input of Right Channel
6	CR _{PR}	Capacitance for Right Channel Ripple Rejection
7	+R _{in}	+Input of Right Channel
8	V _{CCR}	Power Supply for Right Channel
9	+CR	Capacitance for +Level-shift Right Channel
10	-CR	Capacitance for -Level-shift Right Channel
11	G _{NDR}	Ground for Right Channel
12	R _{out}	Output of Right Channel
13	L _{out}	Output of Left Channel
14	G _{NDL}	Ground for Left Channel
15	-C _L	Capacitance for -Level-shift Left Channel
16	+C _L	Capacitance for +Level-shift Left Channel

■ APPLICATION CIRCUIT



MEMO

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