

Dual Boost Amplifier

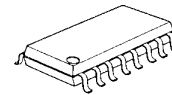
■ GENERAL DESCRIPTION

The **NJM2160B** is a dual boost amplifier designed for car audio system. It expands the frequency characteristics by high slew rate.

It can swing 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



NJM2160BM

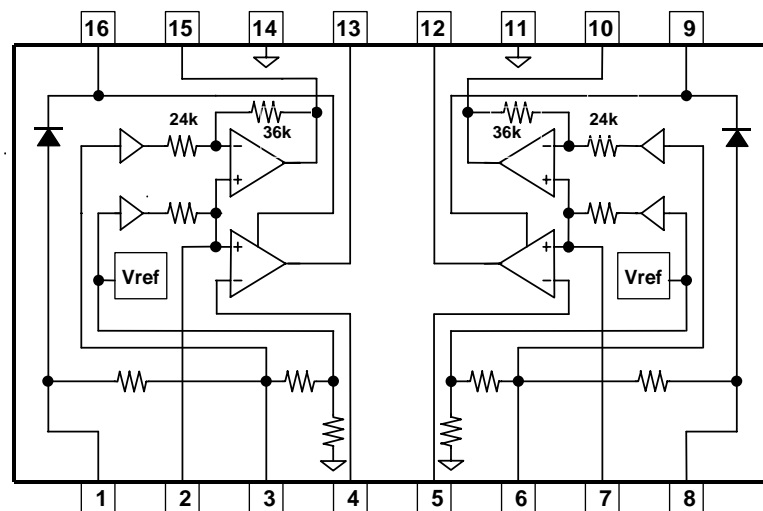


NJM2160BV

■ FEATURES

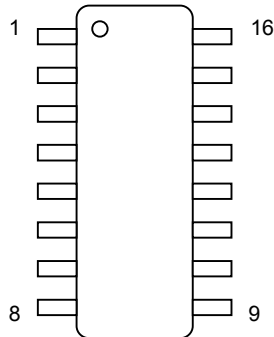
- Operating Voltage (6 to 12V)
- Operating Current (6mA typ.)
- Boost output Function ($V_o=14V_{pp}:@V^+=9V$)
- Maximum Output Voltage (3.5V typ., @ f=30kHz)
- Supply Voltage Rejection Ratio (50dB typ.)
- Total Harmonic Distortion (0.003% typ.)
- Noise Output Voltage ($6\mu V_{rms}$ typ.)
- Bipolar Technology
- Package Outline DMP16 , SSOP16

■ BLOCK DIAGRAM



NJM2160B

■ PIN FUNCTION



PIN NUMBER	PIN NAME	PIN FUNCTION
1	V _{CCL}	Power Supply for Left Channel
2	+Lin	+Input of Left Channel
3	CRPL	Capacitance for Left Channel Ripple Rejection
4	-Lin	-Input of Left Channel
5	-Rin	-Input of Right Channel
6	CRPR	Capacitance for Right Channel Ripple Rejection
7	+Rin	-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	GNDR	Ground for Right Channel
12	R _{OUT}	Output of Right Channel
13	L _{OUT}	Output of Left Channel
14	GNDL	Ground for Left Channel
15	-CL	Capacitance for -Level-shift Left Channel
16	+CL	Capacitance for +Level-shift Left Channel

■ ABSOLUTE MAXIMUM RANGES (Ta=25°C)

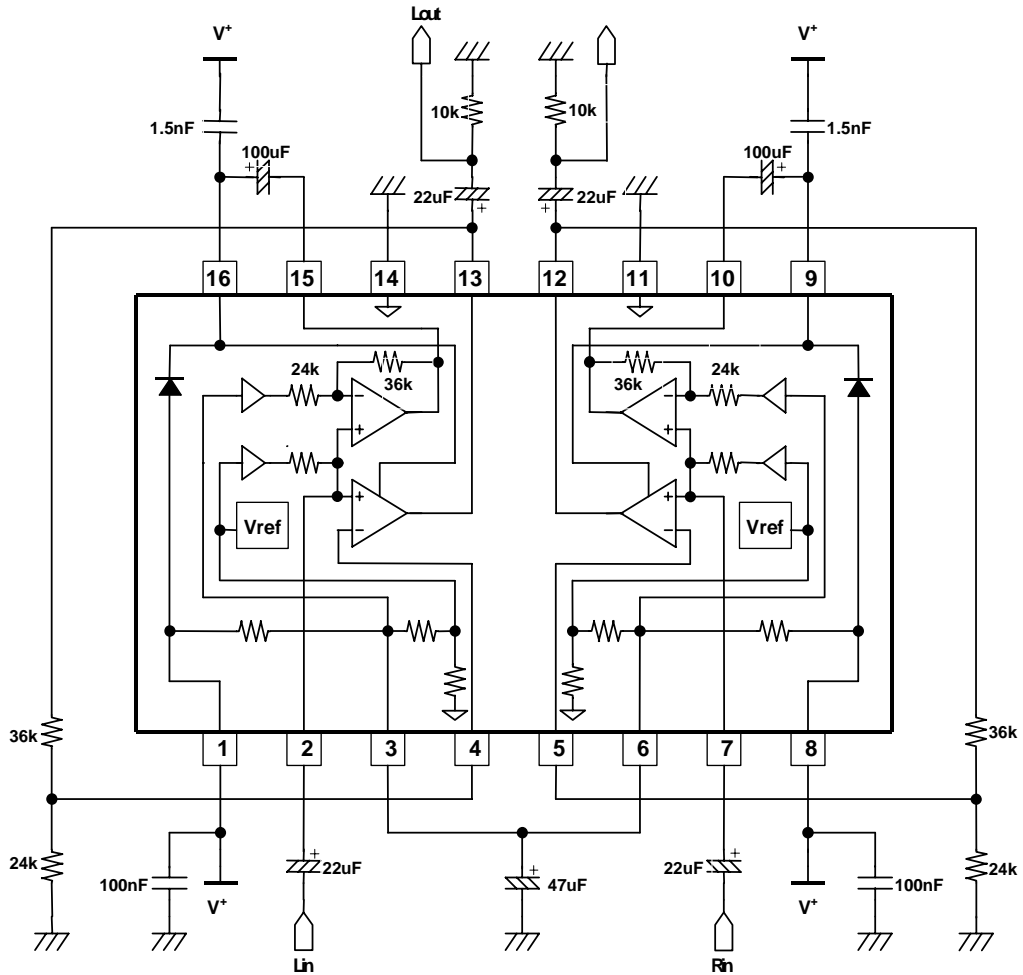
PARAMETER	SYMBOL	RANGE	UNIT
Supply Voltage	V ⁺	+15	V
Output Current	I _o	20	mA
Power Dissipation	P _D	300	mW
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +125	°C

■ ELECTRICAL CHARACTERISTIC ($V^+=9V, T_a=25^\circ C$)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	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 ($f=1kHz, R_L=10k\Omega$)						
Voltage Gain	A_V		7.5	8.0	8.5	dB
Channel Separation	CS	$R_S=600\Omega, V_O=1V_{rms}$	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	50	-	kHz
Input Resistance	R_{IN}		22	30	38	k Ω
Output Resistance	R_{OUT}		-	-	10	Ω
Maximum Output Voltage 1	V_{OM1}	THD=0.1%, $f = 1kHz$	5.0	5.2	-	Vrms
Maximum Output Voltage 2	V_{OM2}	THD=0.1%, $f = 30kHz$	-	3.5	-	Vrms
Noise Output Voltage	V_{NO}	$R_S=600\Omega, A$ -Weighting	-	6	10	μV_{rms}
Total Harmonic Distortion	THD1	$f=1kHz, V_O=3V_{rms}, A$ -Weighting	-	0.003	0.01	%
	THD2	$f=17Hz$ to $20kHz, V_O=3V_{rms}$	-	0.01	-	%
Supply Voltage Rejection Ratio	SVR1	$R_S=600\Omega, f=1kHz, V_{RP}=100mV_{rms}$	55	-	-	dB
	SVR2	$R_S=600\Omega, f=20Hz$ to $20kHz, V_{RP}=100mV_{rms}$	-	50	-	dB

NJM2160B

APPLICATION CIRCUIT



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