

## Dual Boost Amplifier

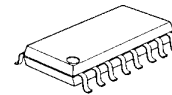
### ■ GENERAL DESCRIPTION

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

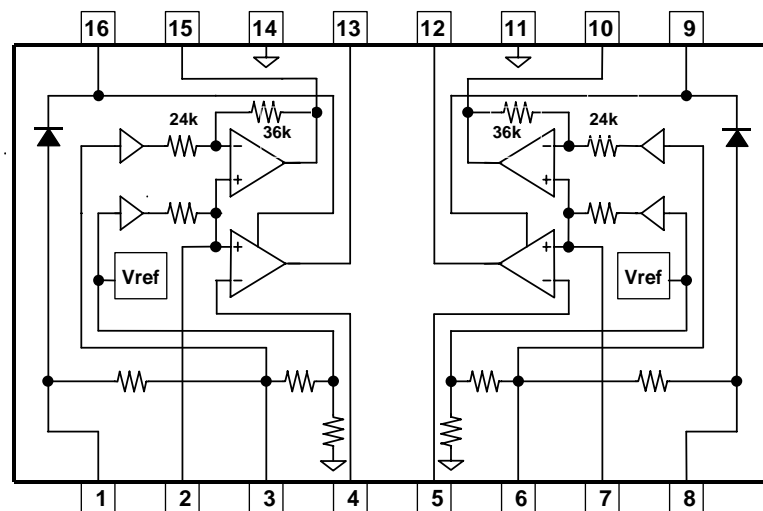


NJM2160BV

### ■ FEATURES

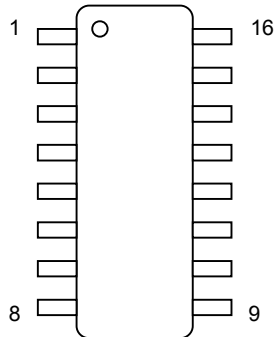
- Operating Voltage (6 to 12V)
- Operating Current (6mA typ. )
- Boost output Function ( $V_o=14V_{pp}:@V^+=9V$ )
- Maximum Output Voltage (3.5V typ., @ f=30kHz )
- Supply Voltage Rejection Ratio (50dB typ. )
- Total Harmonic Distortion (0.003% typ. )
- Noise Output Voltage ( $6\mu V_{rms}$  typ. )
-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

### ■ BLOCK DIAGRAM



# NJM2160B

## ■ PIN FUNCTION



PIN NUMBER	PIN NAME	PIN FUNCTION
1	V <sub>CCL</sub>	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 <sub>CCR</sub>	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 <sub>OUT</sub>	Output of Right Channel
13	L <sub>OUT</sub>	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)

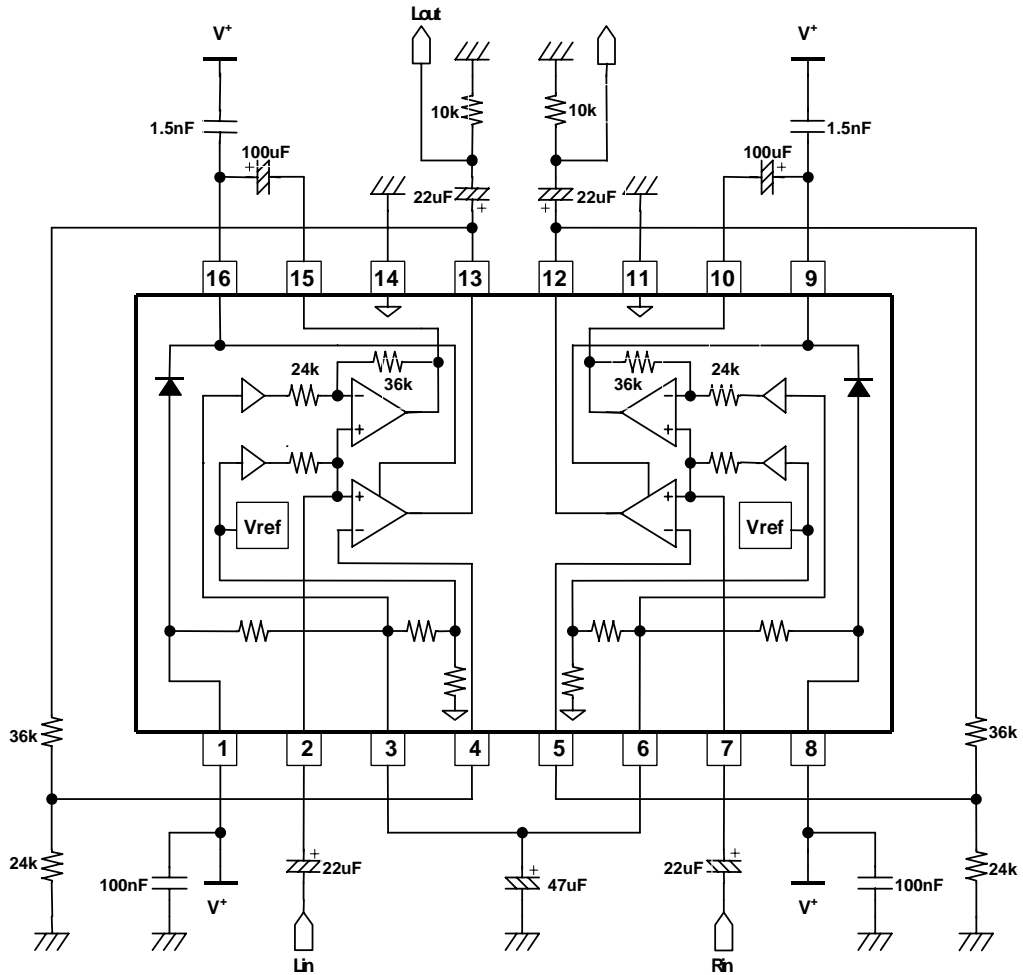
PARAMETER	SYMBOL	RANGE	UNIT
Supply Voltage	V <sup>+</sup>	+15	V
Output Current	I <sub>o</sub>	20	mA
Power Dissipation	P <sub>D</sub>	300	mW
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +125	°C

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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
<b>DC CHARACTERISTIC</b>						
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
<b>AC CHARACTERISTIC (<math>f=1kHz, R_L=10k\Omega</math>)</b>						
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 $\Omega$
Output Resistance	$R_{OUT}$		-	-	10	$\Omega$
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	$\mu V_{rms}$
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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