

LOW SATURATION DUAL OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM2140 is a low supply voltage ($\pm 1.0\text{V}$ MIN) and low saturation output voltage ($\pm 2.0\text{Vp-p}$ at supply voltage $\pm 2.5\text{V}$) operational amplifier. It is applicable to portable CD, radio cassette CD, and portable DAT, that are audio apparatus which require the 5V single supply operation and high output voltage.

■ PACKAGE OUTLINE



NJM2140R

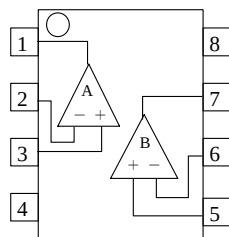


NJM2140RB1

■ FEATURES

- Operating Voltage $(\pm 1\text{V to } \pm 7\text{V})$
- High Slew Rate $(4\text{V}/\mu\text{s typ.})$
- Wide Band (12MHz typ.)
- Low Saturation Output Voltage $(\pm 2.4\text{V typ. at } V^+/V^- = \pm 2.5\text{V}, R_L = 10\text{k}\Omega)$
- Package Outline VSP8, TVSP8
- Bipolar Technology

■ PIN CONFIGURATION

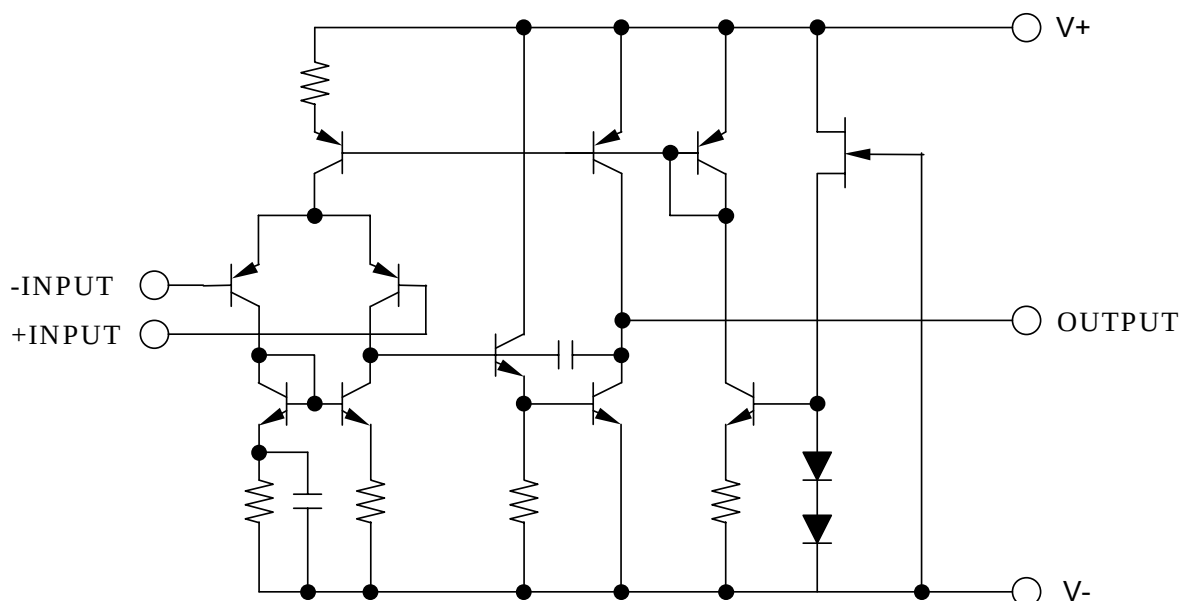


NJM2140R/RB1

PIN FUNCTION

1. A OUTPUT
2. A - INPUT
3. A + INPUT
4. V^-
5. B + INPUT
6. B - INPUT
7. B OUTPUT
8. V^+

■ EQUIVALENT CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+/V^-	± 7.0	V
Differential Input Voltage	V_{ID}	± 14	V
Power Dissipation	P_D	R/RB1 320	mW
Operating Temperature Range	Topr	- 20 to + 75	°C
Storage Temperature Range	Tstg	- 40 to + 125	°C

■ ELECTRICAL CHARACTERISTICS

(V^+/V^- =2.5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_s \leq 10k\Omega$	-	1	6	mV
Input Offset Current	I_{IO}		-	10	20	nA
Input Bias Current	I_B		-	100	300	nA
Large Signal Voltage Gain	A_V	$R_L \geq 10k\Omega$	60	80	-	dB
Maximum Output Voltage Swings 1	V_{OM1}	$R_L = 2.5k\Omega$	± 2.0	± 2.2	-	V
Maximum Output Voltage Swings 2	V_{OM2}	$R_L \geq 10k\Omega$	± 2.3	± 2.4	-	V
Input Common Mode Voltage Range	V_{ICM}		± 1.5	-	-	V
Common Mode Rejection Ratio	CMRR		60	74	-	dB
Supply Voltage Rejection Ratio	PSRR		60	80	-	dB
Operating Current	I_{CC}		-	3.5	5	mA
Slew Rate	SR		-	4	-	V/ μ s
Unity Gain Frequency	f_T		-	12	-	MHz

[CAUTION]

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.