

**SINGLE-SUPPLY DUAL OPERATIONAL AMPLIFIER**

■ GENERAL DESCRIPTION

The NJM2143 is a single-supply dual operational amplifier packaged in VSP8. Its input stage of darlington PNP detects GND level.

There is no crossover distortion in single supply operation if the load is direct-coupled to ground.

■ OUTLINE PACKAGE

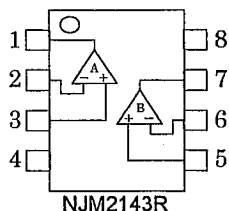


NJM2143R

■ FEATURES

- Single-Supply Operation
- Operating Voltage (V<sup>+</sup>=3V~+20V)
- Low Operating Current (0.7mA typ.)
- Bipolar Technology
- Package Outline VSP8

■ PIN CONFIGURATION

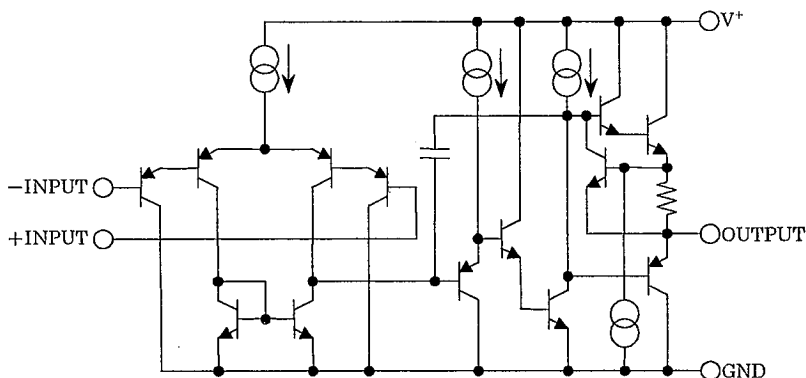


PIN FUNCTION

- |             |                   |
|-------------|-------------------|
| 1 .A OUTPUT | 5 .B+INPUT        |
| 2 .A-INPUT  | 6 .B-INPUT        |
| 3 .A+INPUT  | 7 .B OUTPUT       |
| 4 .GND      | 8 .V <sup>+</sup> |

4

■ EQUIVALENT CIRCUIT (1/2 Shown)



## ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V+	+20(±10)	V
Differential Input Voltage	V <sub>ID</sub>	+20	V
Input Voltage	V <sub>IN</sub>	-0.3~+20(note 1)	V
Power Dissipation	P <sub>D</sub>	320	mW
Operating Temperature Range	Topr	-40~85	°C
Storage Temperature Range	Tstg	-50~125	°C

(note 1) : When input voltage is less than +20V, the absolute maximum control voltage is equal to the input voltage.

## ■ ELECTRICAL CHARACTERISTICS

(V<sup>+</sup>=5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V <sub>IO</sub>	R <sub>S</sub> =0Ω	-	2	7	mV
Input Offset Current	I <sub>IO</sub>		-	5	50	nA
Input Bias Current	I <sub>B</sub>		-	25	250	nA
Large Signal Voltage Gain	A <sub>V</sub>	R <sub>L</sub> ≥ 2kΩ	-	100	-	dB
Maximum Output Voltage Swings	V <sub>OPP</sub>	R <sub>L</sub> =2kΩ	3.5	-	-	V
Input Common Mode Voltage Range	V <sub>ICM</sub>		0~3.5	-	-	V
Common Mode Rejection Ratio	CMR		-	85	-	dB
Supply Voltage Rejection Ratio	SVR		-	100	-	dB
Output Source Current	I <sub>SOURCE</sub>	V <sub>IN</sub> <sup>+</sup> =1V, V <sub>IN</sub> <sup>-</sup> =0V	20	30	-	mA
Output Sink Current	I <sub>SINK</sub>	V <sub>IN</sub> <sup>+</sup> =0V, V <sub>IN</sub> <sup>-</sup> =1V	8	20	-	mA
Cannel Separation	CS		-	120	-	dB
Operating Current	I <sub>CC</sub>	R <sub>L</sub> =∞	-	0.7	1.2	mA
Slew Rate	SR		-	0.5	-	V/μs
Gain Bandwidth Product	GW		-	0.6	-	MHz

## MEMO

[CAUTION]

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