SINGLE-SUPLLY 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.

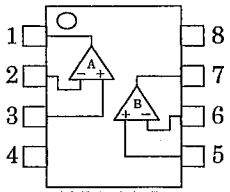
■ OUTLINE PACKAGE

NJM2143R

■ FEATURES

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

■ PIN CONFIGURATION

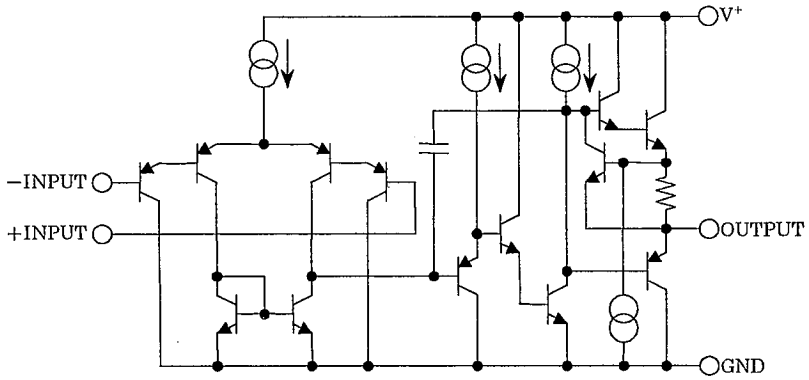


NJM2143R

PIN FUNCTION

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

■ 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_{ID}	+20	V
Input Voltage	V_{IN}	−0.3～+20(note 1)	V
Power Dissipation	P_D	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^+=5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	R_S=0Ω	−	2	7	mV
Input Offset Current	I_{IO}		−	5	50	nA
Input Bias Current	I_B		−	25	250	nA
Large Signal Voltage Gain	Av	$R_L \geqq 2k\Omega$	−	100	−	dB
Maximum Output Voltage Swings	V_{OPP}	R_L=2kΩ	3.5	−	−	V
Input Common Mode Voltage Range	V_{ICM}		0～3.5	−	−	V
Common Mode Rejection Ratio	CMR		−	85	−	dB
Supply Voltage Rejection Ratio	SVR		−	100	−	dB
Output Source Current	I_{SOURCE}	V_{IN}^+=1V,V_{IN}^-=0V	20	30	−	mA
Output Sink Current	I_{SINK}	V_{IN}^+=0V,V_{IN}^-=1V	8	20	−	mA
Cannel Separation	CS		−	120	−	dB
Operating Current	Icc	R_L=∞	−	0.7	1.2	mA
Slew Rate	SR		−	0.5	−	V/μs
Gain Bandwidth Product	GW		−	0.6	−	MHz

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