



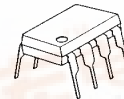
Input/Output Full-Swing High Output Current Dual C-MOS Operational Amplifier

■ GENERAL DESCRIPTION

The NJU7043 is a dual C-MOS operational amplifier permitting a full-swing input and output in full-swing under high load.

Based on C-MOS technology, there are excellent features such as high output current, low current consumption, low operating voltage.

■ PACKAGE OUTLINE



NJU7043D



NJU7043M



NJU7043V



NJU7043RB1

■ FEATURES

- Operating Voltage
- Input/Output Full-Swing
- High Output Current

$V_{DD}=1.8$ to $5.0V$

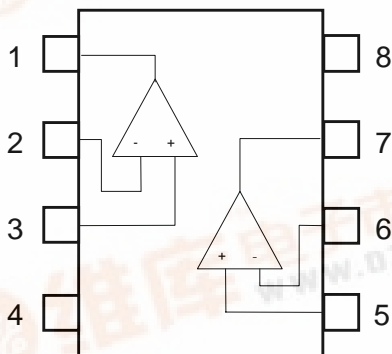
- Input Offset Voltage
- Wide Input Common Mode Voltage Range
- Operating Current
- High Input Impedance
- Low Input Bias Current
- Ground Sensing
- Tiny Package

$I_{source}>40mA$ typ. at V_o
 $I_{sink}<-40mA$ typ. at V_o
 $V_{IO}=7mV$ max.

V_{SS} to V_{DD}
 $I_{DD}=700\mu A$ typ.
 $1T\Omega$ typ.
 $I_{IB}=1pA$ typ.

DIP8, DMP8, SSOP8, TVSP8

■ PIN CONFIGURATION



PIN FUNCTION

1. OUTPUT1
2. -INPUT1
3. +INPUT1
4. V_{SS}
5. +INPUT2
6. -INPUT2
7. OUTPUT2
8. V_{DD}

NJU7043

PRELIMINARY

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V _{DD}	5.5	V
Power Dissipation	P _D	500 (DIP8) 250 (SSOP8) 300 (DMP8) 320 (TVSP8)	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-55 to +125	°C

(Note 1)

If the supply voltage (V_{DD}) is less than 5.5V, the input voltage must not over the V_{DD} level through 5.5V is limit specified.

(Note 2)

Decoupling capacitor should be connected between V_{DD} and V_{SS} due to the stabilized operation for the circuit.

■ RECOMMENDED OPERATION CONDITION

(Ta=25°C)

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V _{DD}	1.8 to 5.0	V

■ ELECTRICAL CHARACTERISTICS

● DC CHARACTERISTICS

(V_{DD}=3.0V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Operating Current	I _{DD}	No Signal, Dual Circuits	-	600	1,000	μA
Input Offset Voltage	V _{IO}		-	-	7	mV
Input Bias Current	I _B		-	1	-	pA
Input Offset Current	I _{IO}		-	1	-	pA
Voltage Gain	A _V	R _L =10kΩ	70	90	-	dB
Common Mode Rejection Ratio	CMR	0 ≤ V _{CM} ≤ 1.5V, 1.5 ≤ V _{CM} ≤ 3.0V (Note)	45	60	-	dB
Supply Voltage Rejection Ratio	SVR	2.4V ≤ V _{DD} ≤ 5.0V, V _{CM} =V _{DD} /2	70	80	-	dB
H Level Output Voltage 1	V _{OH1}	R _L =10kΩ	2.95	-	-	V
L Level Output Voltage 1	V _{OL1}	R _L =10kΩ	-	-	0.05	V
H Level Output Voltage 2	V _{OH2}	R _L =600Ω	2.90	-	-	V
L Level Output Voltage 2	V _{OL2}	R _L =600Ω	-	-	0.10	V
Input Common Mode Voltage Range	V _{ICM}	CMR > 45dB	0	-	3	V

(Note) CMR is represented by either CMR+ or CMR- which has lower value.

CMR+ is measured with 1.5V ≤ V_{CM} ≤ 3V and CMR- is measured with 0V ≤ V_{CM} ≤ 1.5V.

● AC CHARACTERISTICS

(V_{DD}=3.0V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Unity Gain Bandwidth	GB	R _L =10kΩ	-	0.8	-	MHz
Total Harmonic Distortion	THD	f=1kHz, Vin=1Vpp, Av=0dB	-	0.05	-	%
Equivalent Input Noise Voltage	e _n	f=1kHz	-	40	-	nV/ √Hz

● TRANSIENT CHARACTERISTICS

(V_{DD}=3.0V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Slew Rate	SR	R _L =10kΩ	-	0.7	-	V/μs

[CAUTION]

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