# NJU7061/62/64

### NJU7064D is the NRND product

# LOW INPUT OFFSET VOLTAGE C-MOS OPERATIONAL AMPLIFIER

### **FEATURES**

### **GENERAL DESCRIPTION**

Single-Power-Supply

Low Input Offset Voltage  $(V_{IO}=2mV max.)$ 

Wide Operating Voltage

 $(V_{DD}=3\sim16V)$ 

Wide Output Swing Range

 $(V_{OM}=9.98V \text{ typ.} @ V_{DD}=10V)$ 

Low Operating Current

(150µA/circuit)

Low Bias Current

( $I_{IB}=1pA$  typ.)

Internal Compensation Capacitor

External Offset Null Adjustment (Only NJU7061)

Package Outline DIP/DMP/SSOP8 (NJU7061)

DIP/DMP8 ( NJU7062 )

DIP/DMP/SSOP14 (NJU7064)

C-MOS Technology

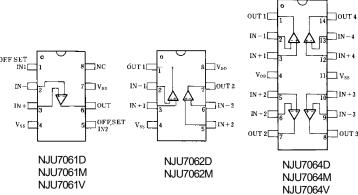
The NJU7061,62 and 64 are single, dual and guad C-MOS Operational Amplifiers operated on a single-power-supply, low voltage and low operating current.

The input offset voltage is lower than 2mV, and the input bias current is as low as less than 1pA, consequently the very small signal around the ground level can be amplified.

The minimum operating voltage is 3V and the output stage permits output signal to swing between both of the supply rails.

Furthermore, the operating current is also as low as 150µA (typ.) per circuit, therefore it can be applied especially to battery operated items.

### PIN CONFIGURATION







NJU7061M NJU7062M

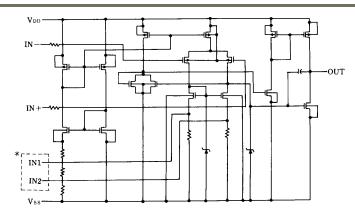


NJU7064M





### **EQUIVALENT CIRCUIT**



<sup>\*</sup> IN1,IN2 are only for NJU7061 ( NJU7062/64 don't have these terminals ).

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### ■ ABSOLUTE MAXIMUM RATINGS( Ta=25°C )

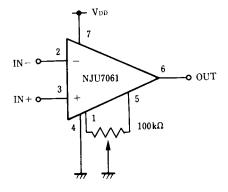
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V_{DD}$	18	V
Differential Input Voltage	VID	±18 (note1)	V
Common Mode Input Voltage	Vic	-0.3~18	V
Power Dissipation	P <sub>D</sub>	( DIP14 ) 700 ( DIP8 ) 500 ( DMP8,14 ) 300 ( SSOP14 ) 300 ( SSOP8) 250	mW
Operating Temperature Range	T <sub>opr</sub>	-40~+85	°C
Storage Temperature Range	T <sub>stg</sub>	-40~+125	°C

( note1 ) If the supply voltage ( VDD ) is less than 18V, the input voltage must not over the VDD level though 18V is limit specified.

### **■ ELECTRICAL CHARACTERISTICS**( Ta=25°C,V<sub>DD</sub>=10V,R<sub>L</sub>=∞)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	Vio	R <sub>S</sub> =50Ω	-	-	2	mV
Input Offset Current	lio		-	1	-	pА
Input Bias Current	I <sub>IB</sub>		-	1	-	pА
Input Impedance	$R_{IN}$		-	1	-	ŤΩ
Large Signal Voltage Gain	Av		80	95	-	dB
Input Common Mode Voltage Range	VICM		0~9	-	-	V
Maximum Output Swing Voltage	Vом	R <sub>L</sub> =1MΩ	9.80	9.98	-	V
Common Mode Rejection Ratio	CMR		60	75	-	dB
Supply Voltage Rejection Ratio	SVR		60	75	-	dB
Operating Current/Circuit	I <sub>DD</sub>		-	150	300	μA
Slew Rate	SR		-	0.40	-	V/µs
Unity Gain Bandwidth	Ft	Av=40dB,CL=10pF	-	0.4	-	MHz

### ■ OFFSET ADJUSTMENT CIRCUIT (Only For NJU7061)





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### **■ REVISION HISTORY**

Date	Revision	Changes
November 17, 2023	Ver. 1.0	<ul> <li>Change of company name and design form</li> <li>Revision number (Ver.2014-11-27 → Ver.1.0)</li> <li>Added revision history</li> </ul>



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