

## NJM072B/082B, 072/082

The NJM072B/082B & NJM072/082 are dual JFET input operational amplifiers. They feature low input bias and offset currents, high input impedance and fast slew rate. The low harmonic distortion and low noise make them ideally suit for amplifiers with high fidelity and audio amplifier applications.

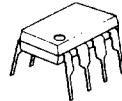
The NJM072/082 may cause oscillation in some application like voltage follower.

### ■ Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V <sup>+</sup> /V <sup>-</sup>	±18V	
Input Voltage (note 1)	V <sub>I</sub>	±15V	
Differential Input Voltage	V <sub>ID</sub>	±30V	
Power Dissipation	P <sub>D</sub> (D-Type)	500mW	
		(M-Type)	300mW
		(V-Type)	250mW
		(L-Type)	800mW
Operating Temperature Range	T <sub>opr</sub>	-20~+75°C	
Storage Temperature Range	T <sub>stg</sub>	-40~+125°C	

(note 1) For supply voltages less than ±15V, the absolute maximum input voltage is equal to the supply voltage.

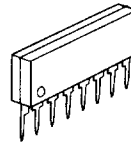
### ■ Package Outline



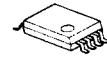
NJM072BD/082BD  
NJM072D/082D



NJM072BE/082BE  
NJM072E/082E



NJM072BL/082BL  
NJM072L/082L



NJM072BV/082BV

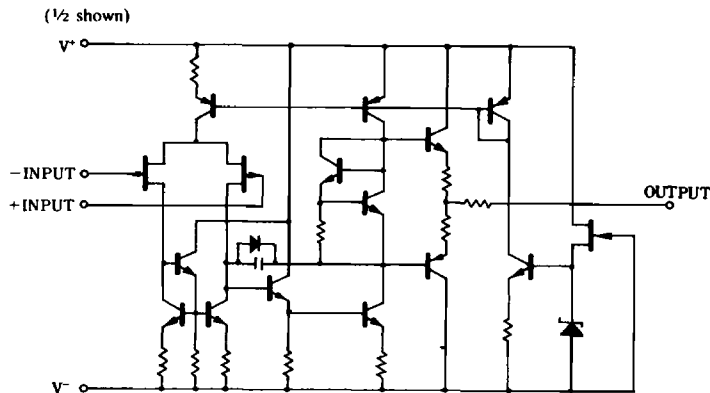
### ■ Electrical Characteristics (Ta=25°C, V<sup>+</sup>/V<sup>-</sup>=±15V)

( ) Applies to NJM082B, NJM082

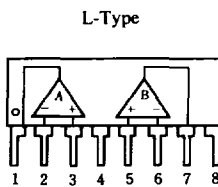
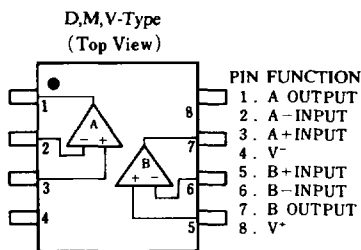
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V <sub>IO</sub>	R <sub>S</sub> =50Ω	—	3(5)	10(15)	mV
Input Offset Current	I <sub>IO</sub>		—	5	50(200)	pA
Input Bias Current	I <sub>B</sub>		—	30	200(400)	pA
Input Common Mode Voltage Range	V <sub>ICM</sub>		±10	—	—	V
Maximum Peak-to-peak Output Voltage Swing	V <sub>OPP</sub>	R <sub>L</sub> =10kΩ	24	27	—	V <sub>p-p</sub>
Large-Signal Voltage Gain	A <sub>V</sub>	R <sub>L</sub> ≥2kΩ, V <sub>O</sub> =±10V	88	106	—	dB
Unity Gain Bandwidth	f <sub>T</sub>	072B/082B	—	3	—	MHz
		072/082	—	5	—	MHz
Input Resistance	R <sub>IN</sub>		—	10 <sup>12</sup>	—	Ω
Common Mode Rejection Ratio	CMR	R <sub>S</sub> ≤10kΩ	70	76	—	dB
Supply Voltage Rejection Ratio	SVR	R <sub>S</sub> ≤10kΩ	70	76	—	dB
Supply Current	I <sub>CC</sub>		—	3	5(5.6)	mA
Slew Rate	SR	072B/082B	—	13	—	V/μs
		072/082	—	20	—	V/μs
Equivalent Input Noise Voltage	V <sub>NI</sub>	R <sub>S</sub> =100Ω, B.W.=10~10kHz	—	4	—	μVrms

# NJM 072B/082B,072/082

## ■ Equivalent Circuit



## ■ Connection Diagram

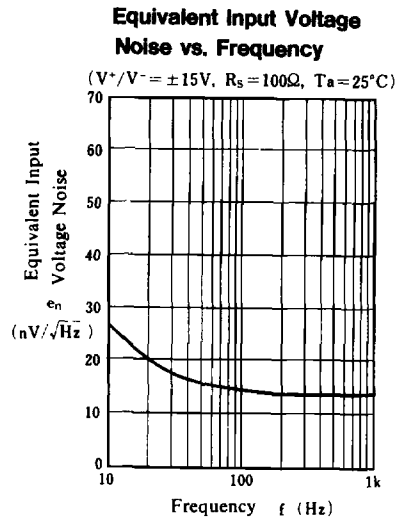
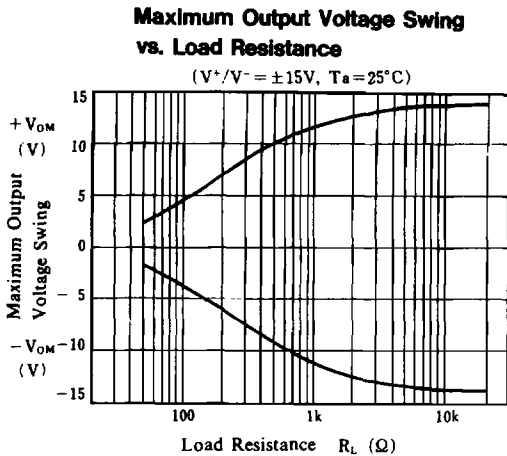
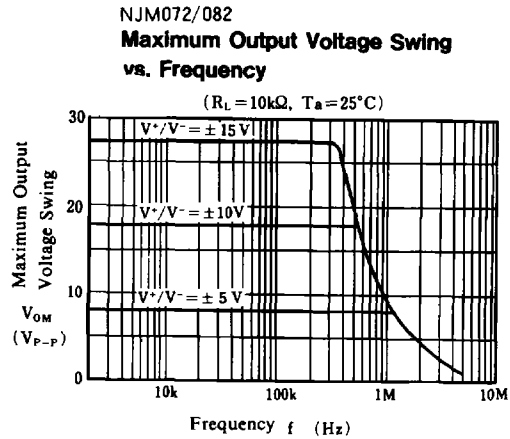
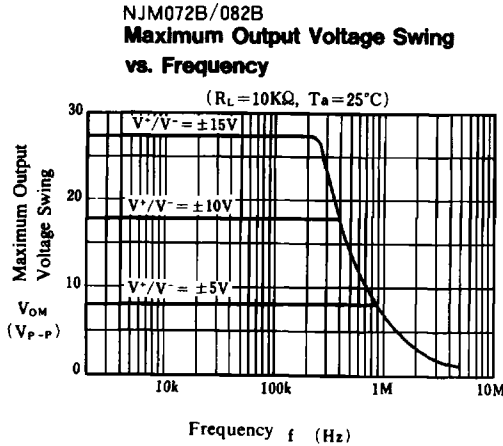
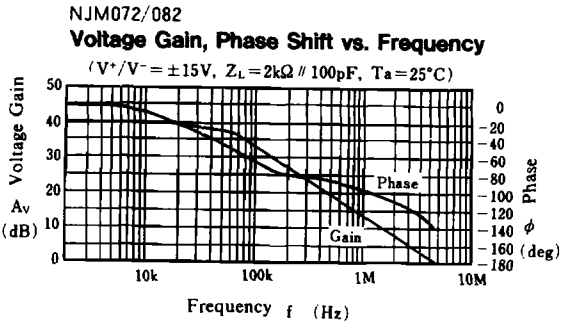
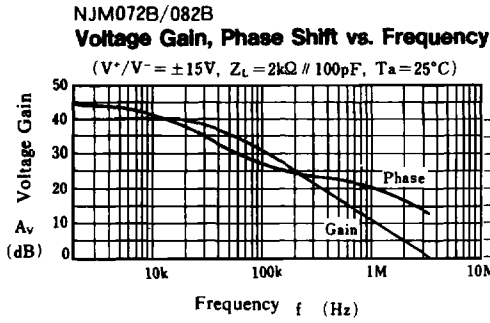


## ■ Notice when application

Recommendable product

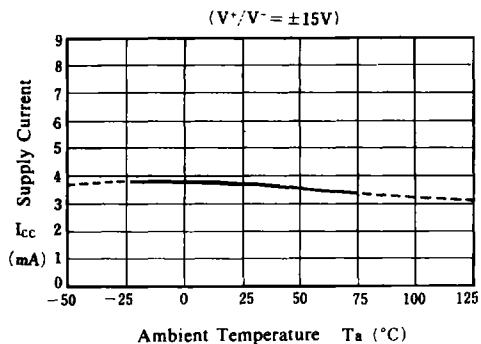
072/082 are the products in which the AC feature have been made much higher comparing to the products of 072B/082B which are compatible with 072/082 type of other company's products. Therefore, 072/082 are unstable in oscillation when the voltage follower application, and it is recommendable to use the standard type 072B/082B when newly designed. Beside these products, we have NJM2082 which is higher up in AC feature, yet stability in oscillation, and then the driving capacity to the load at the output stage is made much higher in operation.

## Typical Characteristics

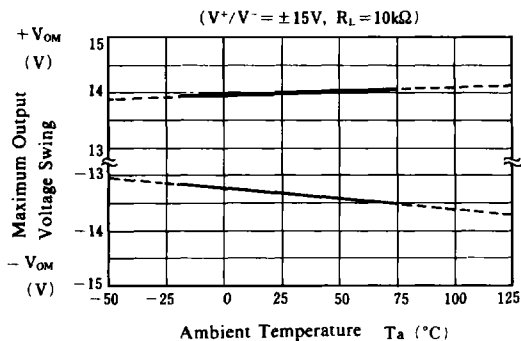


## ■ Typical Characteristics

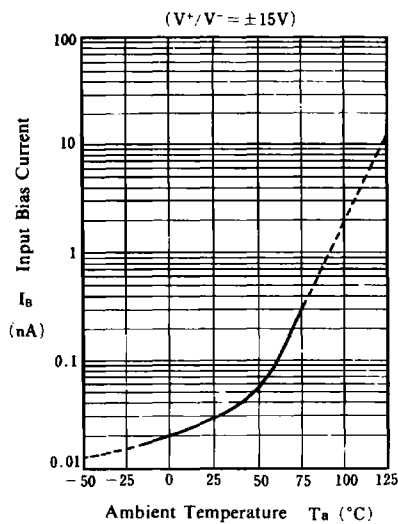
### Supply Current vs. Temperature



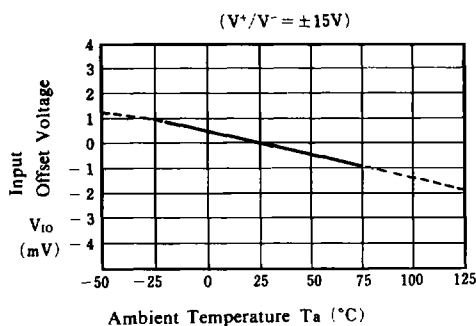
### Maximum Output Voltage Swing vs. Temperature



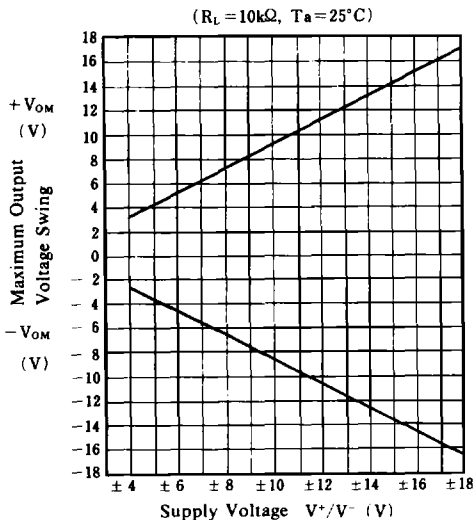
### Input Bias Current vs. Temperature



### Input Offset Voltage vs. Temperature



### Maximum Output Voltage Swing vs. Supply Voltage



### Supply Current vs. Supply Voltage

