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## QUAD J-FET INPUT OPERATIONAL AMPLIFIER

### ■ GENERAL DESCRIPTION

The NJM074/084 are quad JFET input operational amplifiers.

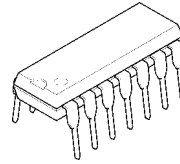
The NJM074/084 have the same electrical characteristics of NJM072B/082B except supply current.

### ■ FEATURES

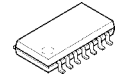
- Operating Voltage (  $\pm 4V \sim \pm 18V$  )
- J-FET Input
- High Input Resistance (  $10^{12}\Omega$  typ. )
- Low Input Bias Current (  $30pA$  typ. )
- High Slew Rate (  $13V/\mu s$  typ. )
- Wide Unity Gain Bandwidth (  $3MHz$  typ. )
- Package Outline DIP14, DMP14, SSOP14
- Bipolar Technology

### ■ PIN CONFIGURATION

### ■ PACKAGE OUTLINE



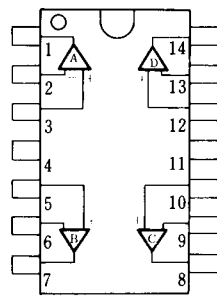
NJM074D  
NJM084D



NJM074M  
NJM084M



NJM074V  
NJM084V

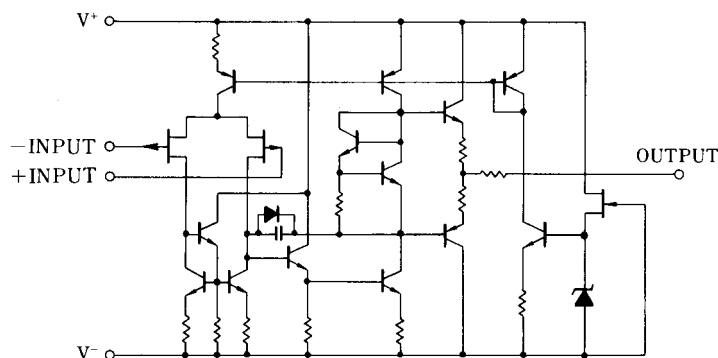


NJM074D/084D  
NJM074M/084M  
NJM074V/084V

### PIN FUNCTION

1. A OUTPUT
2. A -INPUT
3. A +INPUT
4.  $V^+$
5. B +INPUT
6. B -INPUT
7. B OUTPUT
8. C OUTPUT
9. C -INPUT
10. C +INPUT
11.  $V^-$
12. D +INPUT
13. D -INPUT
14. D OUTPUT

### ■ EQUIVALENT CIRCUIT ( 1/4 Shown )



# NJM074/084

## ■ ABSOLUTE MAXIMUM RATINGS

( Ta=25°C )

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V^+ / V^-$	± 18	V
Differential Input Voltage	$V_{ID}$	± 30	V
Input Voltage	$V_{IC}$	± 15 ( note1 )	V
Power Dissipation	$P_D$	( DIP14 ) 700 ( DMP14 ) 700 ( note2 ) ( SSOP14 ) 300	mW
Operating Temperature Range	$T_{opr}$	-40~+85	°C
Storage Temperature Range	$T_{stg}$	-40~+125	°C

( note1 ) For supply voltage less than ±15V, the absolute maximum input voltage is equal to the supply voltage.

( note2 ) At on PC board

## ■ ELECTRICAL CHARACTERISTICS ( Ta=+25°C, $V^+ / V^- = \pm 15V$ )

( ) Applies to NJM084

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	$V_{IO}$	$R_S = 50\Omega$	-	3(5)	10(15)	mV
Input Offset Current	$I_{IO}$		-	5	50(200)	pA
Input Bias Current	$I_B$		-	30	200(400)	pA
Input Common Mode Voltage Range	$V_{ICM}$		± 10	-	-	V
Maximum Peak-to-peak Output Voltage Swing	$V_{OPP}$	$R_L = 10k\Omega$	24	27	-	$V_{P-P}$
Large-Signal Voltage Gain	$A_V$	$R_L \geq 2k\Omega, V_O = \pm 10V$	88	106	-	dB
Unity Gain Bandwidth	$f_T$		-	3	-	MHz
Input Resistance	$R_{IN}$		-	$10^{12}$	-	$\Omega$
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	70	76	-	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	70	76	-	dB
Operating Current	$I_{CC}$		-	6	10(11.2)	mA
Slew Rate	SR		-	13	-	V/ $\mu s$
Equivalent Input Noise Voltage	$V_{NI}$	$R_S = 100\Omega, B.W. = 10 \sim 10kHz$	-	4	-	$\mu V_{rms}$

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