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DUAL OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM4562 integrated circuit is high-gain, wide-bandwidth, low noise, dual operational amplifier capable of driving 20V peak-to-peak into 600Ω loads. The NJM4562 is frequency compensated for closed loop gains greater than 10. The NJM4562 combines many of the features of the popular NJM4558 as well as providing the capability of wider bandwidth, and higher slew rate and less noise make the NJM4562 ideal for audio preamplifiers, active filters, telecommunications, and many instrumentation applications. The availability of the NJM4562 in the surface mounted micro package allows the NJM4562 to be used in critical applications requiring very high packing densities.

■ PACKAGE OUTLINE





NJM4562D

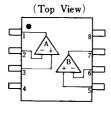
NJM4562M

■ FEATURES

Operating Voltage (±4V~±18V)
 Low Input Noise Voltage (0.6µVrms typ.)
 Package Outline DIP8,DMP8

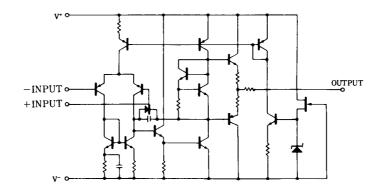
Bipolar Technology

■ PIN CONFIGURATION



NJM4562D NJM4562M PIN FUNCTION
1.A OUTPUT
2.A -INPUT
3.A +INPUT
4.V
5.B +INPUT
6.B -INPUT
7.B OUTPUT
8.V

■ EQUIVALENT CIRCUIT (1/2 Shown)



■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ √	± 18	V
Differential Input Voltage	V_{ID}	± 30	V
Input Voltage	V _{IC}	± 15 (note)	V
Power Dissipation	P _D	(DIP8) 500 (DMP8) 300	mW
Operating Temperature Range	T _{opr}	-40~+85	°C
Storage Temperature Range	T _{stg}	-40~+125	°C

(note) For supply voltage less than $\pm 15 \text{V}$, the absolute maximum input voltage is equal to the supply voltage.

■ ELECTRICAL CHARACTERISTICS

(Ta=25°C,V⁺/V⁻=±15V)

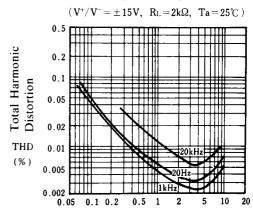
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	R _S ≤10kΩ	-	0.5	6	mV
Input Offset Current	I _{IO}		-	5	200	nA
Input Bias Current	l _Β		-	100	500	nA
Input Resistance	R _{IN}		0.3	5	-	ΜΩ
Large Signal Voltage Gain	A_V	R _L ≥2kΩ,V _O =±10V	86	110	-	dB
Maximum Output Voltage Swing 1	V_{OM1}	R∟≥10kΩ	± 12	± 14	-	V
Maximum Output Voltage Swing 2	V_{OM2}	R _L ≥2kΩ	± 10	± 13	-	V
Input Common Mode Voltage Range	V_{ICM}		± 12	± 14	-	V
Common Mode Rejection Ratio	CMR	R _s ≤10kΩ	70	90	-	dB
Supply Voltage Rejection Ratio	SVR	R _S ≤10kΩ	76.5	90	-	dB
Operating Current	Icc		-	3.5	5.7	mA
Equivalent Input Noise Voltage	V_{NI}	R _S =300Ω,JISA	-	0.6	-	μVrms

■ TYPICAL CHARACTERISTICS

Open Loop Voltage Gain vs. Frequency

 $(V^{+}/V^{-}=\pm 15V, R_{L}=2k\Omega, Ta=25^{\circ}C)$ 120 100 Open Loop Voltage Gain 80 60 40 (dB) 20 0 10 100 1 k 10k 100k

Total Harmonic Distortion vs. Output Voltage



Output Voltage Vo (Vrms)

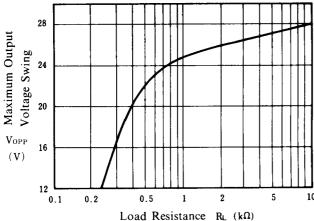
Maximum Output Voltage Swing vs. Load Resistance

Frequency f (Hz)

1M

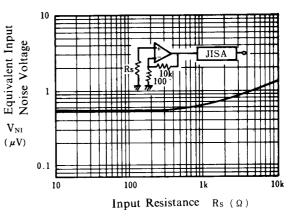
10M

 $(V^+\!/V^-\!=\pm 15V,\ Ta\!=\!25^\circ\!C$)



Equivalent Input Noise Voltage vs. Rs

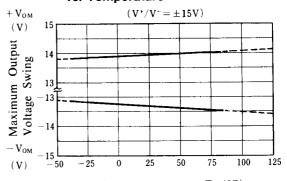
 $(V^{+}/V^{-}=\pm 15V, Ta=25^{\circ}C)$



Operating Current vs. Temperature

 $(V^+/V^-=\pm 15V)$ Operating Current I_{cc} (mA)125 100 Ambient Temperature Ta (°C)

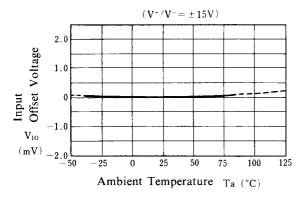
Maximum Output Voltage Swing vs. Temperature



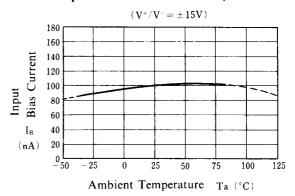
Ambient Temperature Ta (°C)

■ TYPICAL CHARACTERISTICS

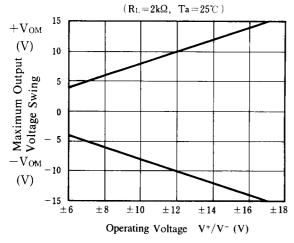
Input Offset Voltage vs. Temperature



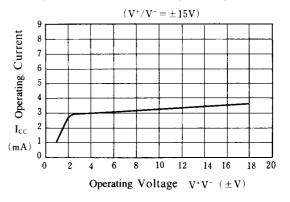
Input Bias Current vs. Temperature



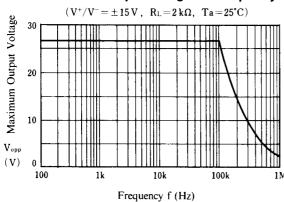
Maximum Output Voltage Swing vs. Operating Voltage



Operating Current vs. Operating Voltage



Maximum Output Voltage vs. Frequency



[CAUTION]

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