

J-FET INPUT OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

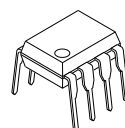
The NJM2162/64 combines feature of the NJM062/064 as well as and providing the capability of wider bandwidth and higher slew rate.

It is suitable for telecom application (active filters etc.).

■ FEATURES

- Operating Voltage ($\pm 2V \sim \pm 18V$)
- High Input Resistance ($10^{12}\Omega$ typ.)
- Low Operating Current ($0.3mA/ch$ typ.)
- High Slew Rate ($10V/\mu s$ typ.)
- J-FET Input
- Wide Unity Gain Bandwidth ($3MHz$ typ.)
- Bipolar Technology
- Package Outline DIP8/14,DMP8/14,SSOP8/14

■ PACKAGE OUTLINE



NJM2162D



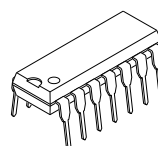
NJM2162M



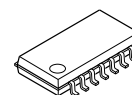
NJM2162V



NJM2164V

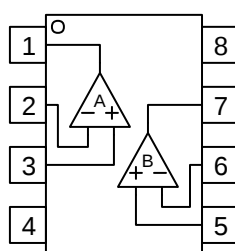


NJM2164D



NJM2164M

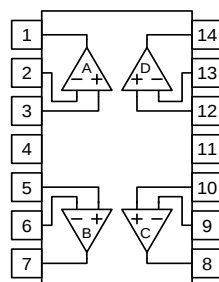
■ PIN CONFIGURATION



NJM2162M
NJM2162V
NJM2162D

PIN FUNCTION

1. A OUTPUT
2. A -INPUT
3. A +INPUT
4. V^-
5. B +INPUT
6. B -INPUT
7. B OUTPUT
8. V^+

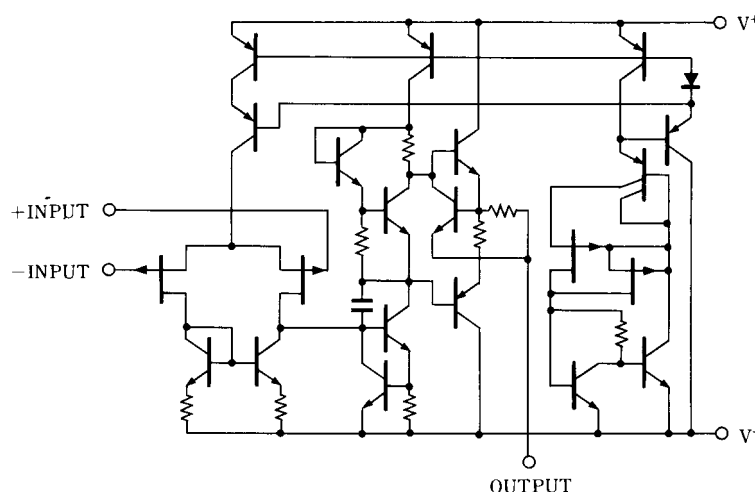


NJM2164M, NJM2164V
NJM2164D

PIN FUNCTION

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

■ EQUIVALENT CIRCUIT (2162 is 1/2 Shown, 2164 is 1/4 Shown)



NJM2162/2164

■ 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	(DIP8) 500 (DMP8) 300 (SSOP8) 250 (DIP14) 700 (DMP14) 300 (SSOP14) 300	mW
Operating Temperature Range	T_{opr}	-20~+75	°C
Storage Temperature Range	T_{stg}	-40~+125	°C

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

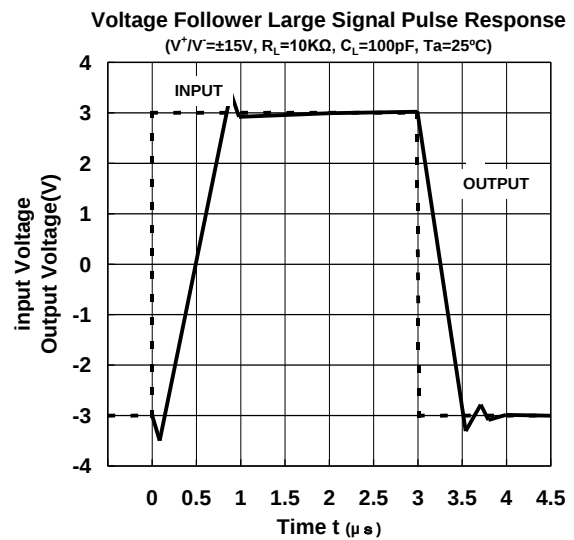
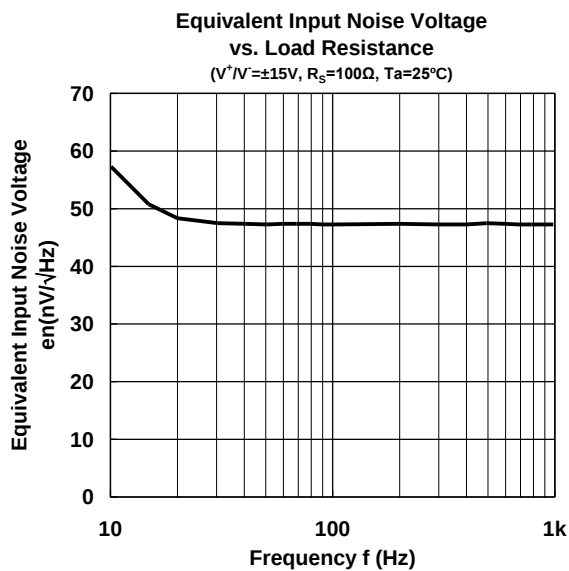
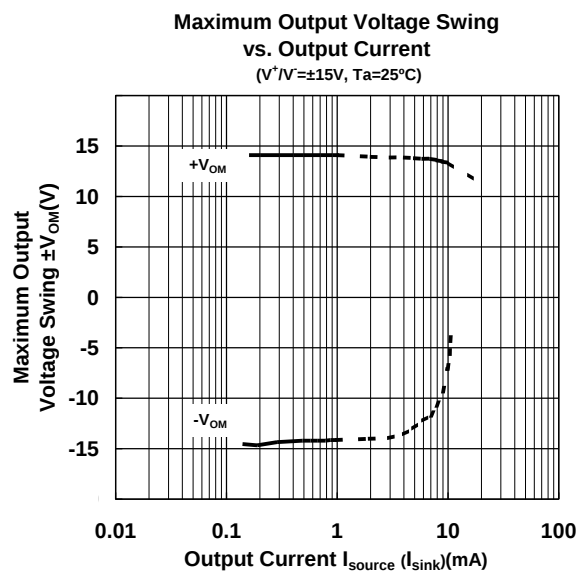
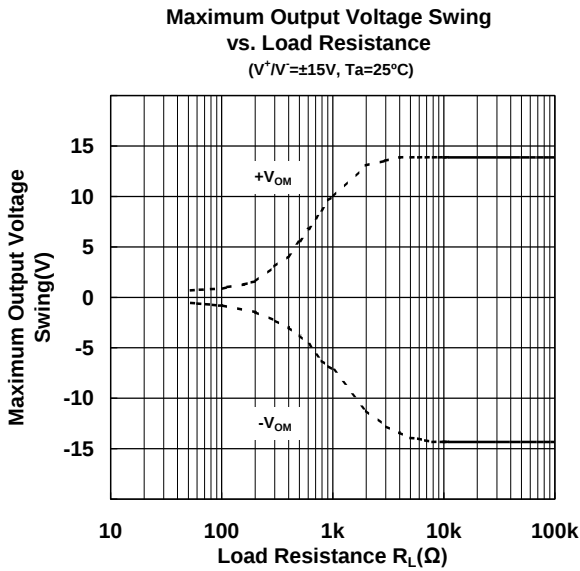
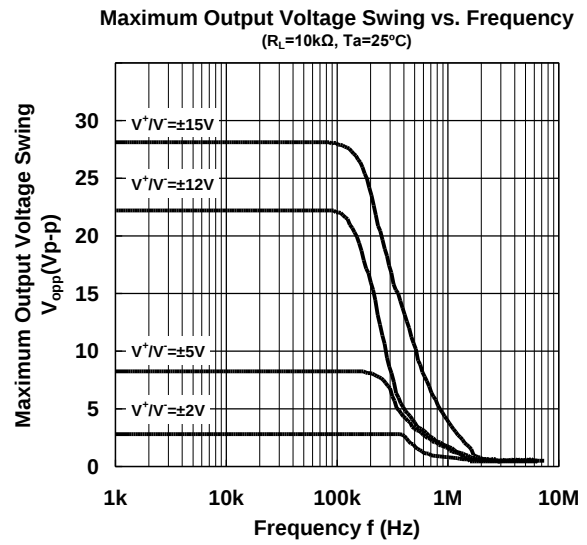
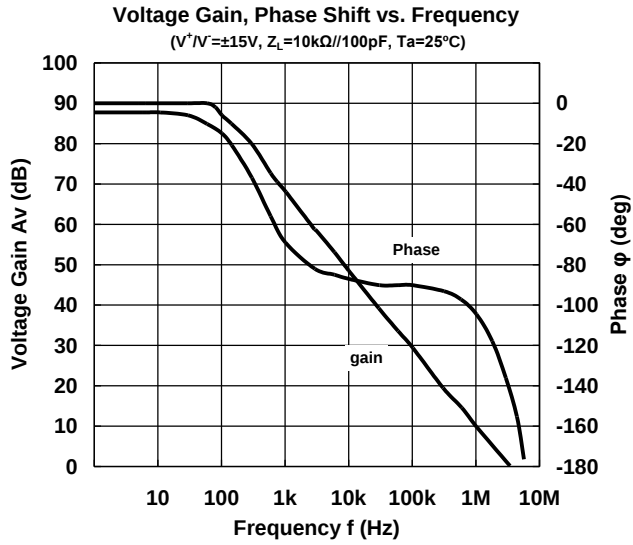
■ ELECTRICAL CHARACTERISTICS

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

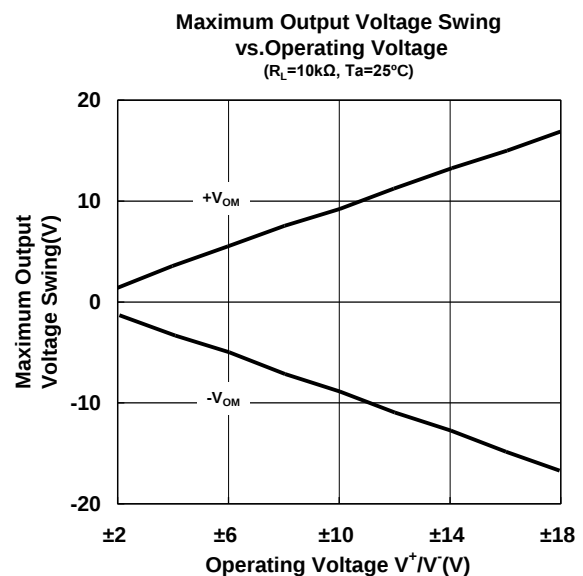
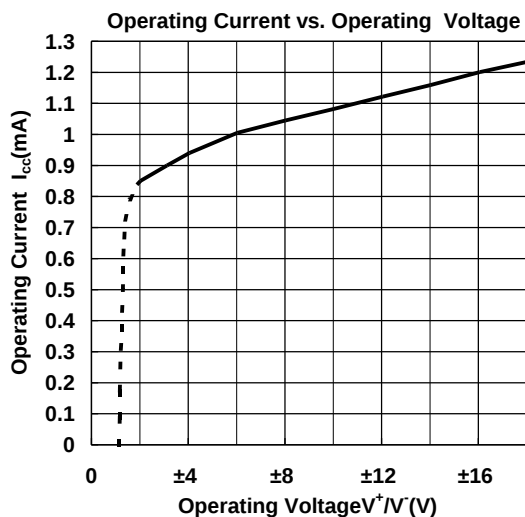
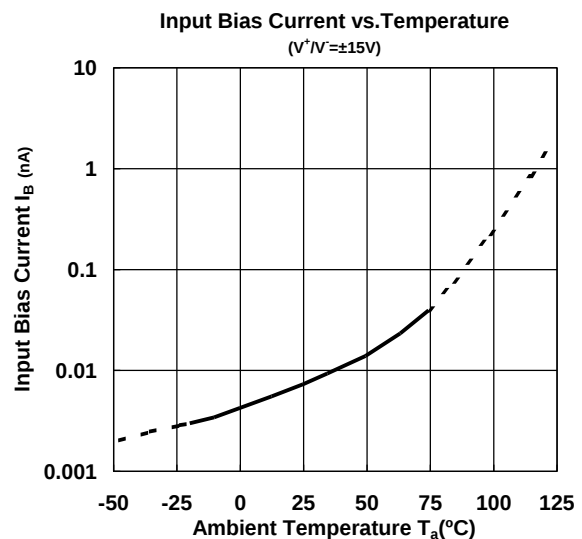
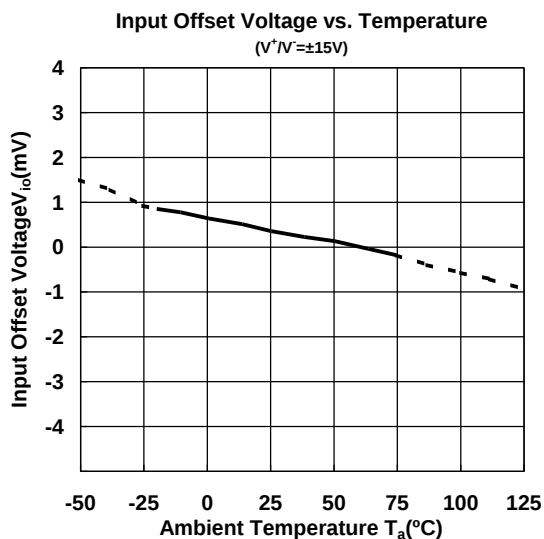
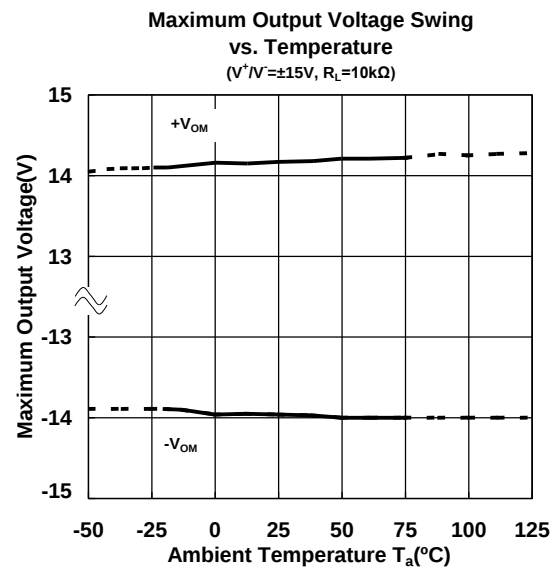
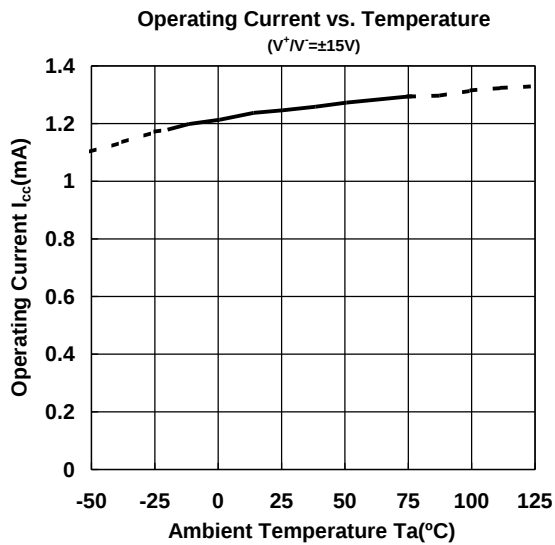
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V^+ / V^-		± 2	-	± 18	V
Input Offset Voltage	V_{IO}	$R_S = 50\Omega$	-	5	15	mV
Input Offset Current	I_{IO}		-	1	200	pA
Input Bias Current	I_B		-	2	400	pA
Input Common Mode Voltage Range	V_{ICM}		± 13	+15 -13.5	-	V
Maximum Output Voltage Swing	V_{OM}	$R_L = 10k\Omega$	± 13	+14.2 -14.0	-	V
Large Signal Voltage Gain	A_V	$R_L \geq 10k\Omega, V_O = \pm 10V$	70	80	-	dB
Unity Gain Bandwidth	f_T	$R_L = 10\Omega$	-	3	-	MHz
Input Resistance	R_{IN}		-	10^{12}	-	Ω
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	70	90	-	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	70	100	-	dB
Operating Current	I_{CC}	$R_L = \infty$ (1 circuit)	-	0.3	0.45	mA
Slew Rate	SR	$R_L = 10k\Omega$	-	10	-	V/ μs
Equivalent Input Noise Voltage	en	$R_S = 100\Omega, f = 1kHz$	-	45	-	nV/ $\sqrt{Hz}$

(Note) The NJM2162/64 is the product in which the AC feature have been made much higher comparing to NJM062/64. Therefore special care being required for the oscillation due to the capacitive load when operation on voltage follower.

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS



[CAUTION]

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