QUAD J-FET INPUT OPERATIONAL AMPLIFIER

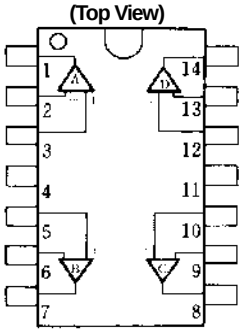
■ **PACKAGE OUTLINE**

NJM074V-Z

■ **FEATURES**

- Operating Voltage ±5V to ±18V
- J-FET Input
- High Input Resistance $10^{12}\Omega$ typ.
- Low Input Bias Current 30pA typ.
- High Slew Rate 13V/μs typ.
- Wide Unity Gain Bandwidth 3MHz typ.
- Bipolar Technology
- Operating Temperature -40°C to 125°C
- Package Outline SSOP14

■ **PIN CONFIGURATION**

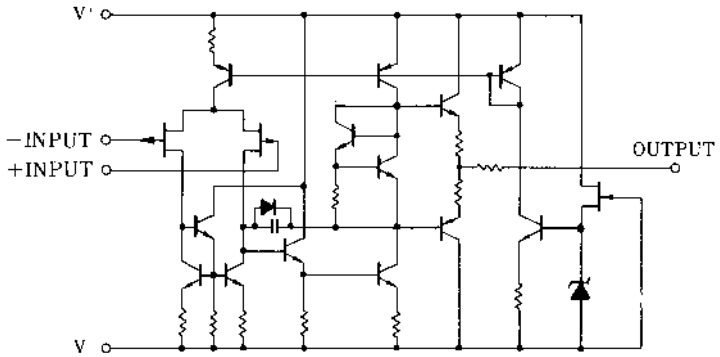


NJM074V-Z

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** (1/4 Shown)



■ 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}	V^- -0.3 to V^+ +0.3	V
Power Dissipation	P_D	(SSOP14) 555 (Note1)	mW
Operating Temperature Range	T_{opr}	-40 to +125	˚C
Storage Temperature Range	T_{stg}	-40 to +150	˚C

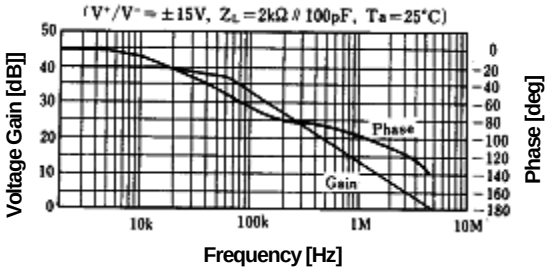
(Note1) Mounted on the EIA/JEDEC standard board (76.2×114.3×1.6mm, 2 layers, FR-4).

■ ELECTRICAL CHARACTERISTICS (Ta=+25˚C, V^+/V^-=±5.5V)

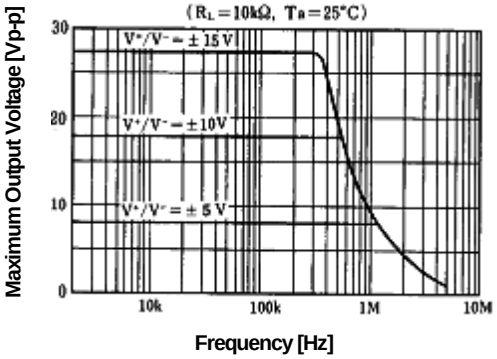
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	R_S=50Ω	-	3	10	mV
		R_S=50Ω, Ta= -40˚C to +125˚C	-	-	20	
Input Offset Current	I_{IO}		-	5	50	pA
		Ta= -40˚C to +125˚C	-	-	200	nA
Input Bias Current	I_B		-	30	200	pA
		Ta= -40˚C to +125˚C	-	-	1000	nA
Input Resistance	R_{IN}		-	10^{12}	-	Ω
Large-Signal Voltage Gain	A_V	R_L≧2kΩ,V_O=± 0.5V	88	106	-	dB
		R_L≧2kΩ,V_O=± 0.5V, Ta= -40˚C to +125˚C	50	-	-	
Maximum Peak-to-peak Output Voltage Swing	V_{OPP}	R_L=10kΩ	5	8	-	V_{P-P}
		R_L=10kΩ, Ta= -40˚C to +125˚C	4	-	-	
Input Common Mode Voltage Range	V_{ICM}		± 0.5	-	-	V
		Ta= -40˚C to +125˚C	± 0.5	-	-	
Common Mode Rejection Ratio	CMR	R_S≦10kΩ	60	70	-	dB
		R_S≦10kΩ, Ta= -40˚C to +125˚C	50	-	-	
Supply Voltage Rejection Ratio	SVR	R_S≦10kΩ	60	74	-	dB
		R_S≦10kΩ, Ta= -40˚C to +125˚C	50	-	-	
Operating Current	I_{CC}		-	6	10	mA
		Ta= 25˚C to +125˚C			10	
		Ta= -40˚C to +125˚C	-	-	12	
Slew Rate	SR		-	13	-	V/μs
Unity Gain Bandwidth	f_T		-	3	-	MHz
Equivalent Input Noise Voltage	V_{NI}	R_S=100Ω, B.W.=10Hz to 10kHz	-	4	-	μV_{rms}

■ TYPICAL CHARACTERISTICS

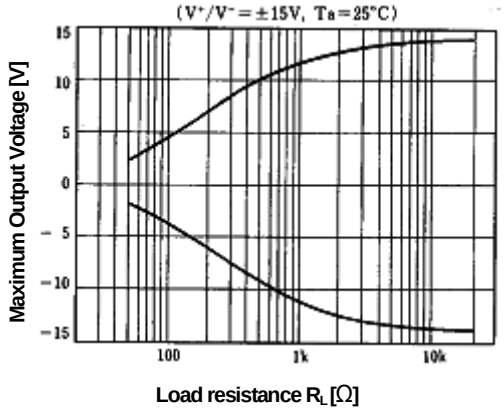
Gain/Phase vs. Frequency



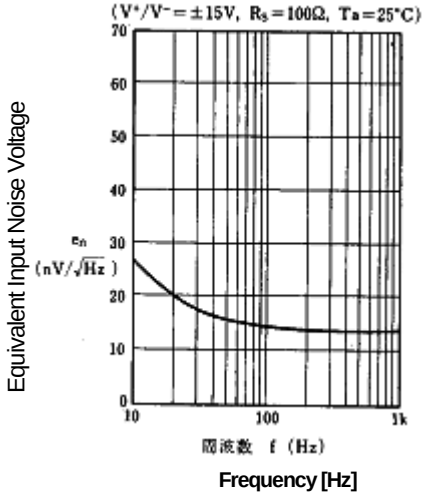
Maximum Peak-to-peak Output Voltage Swing vs. Frequency



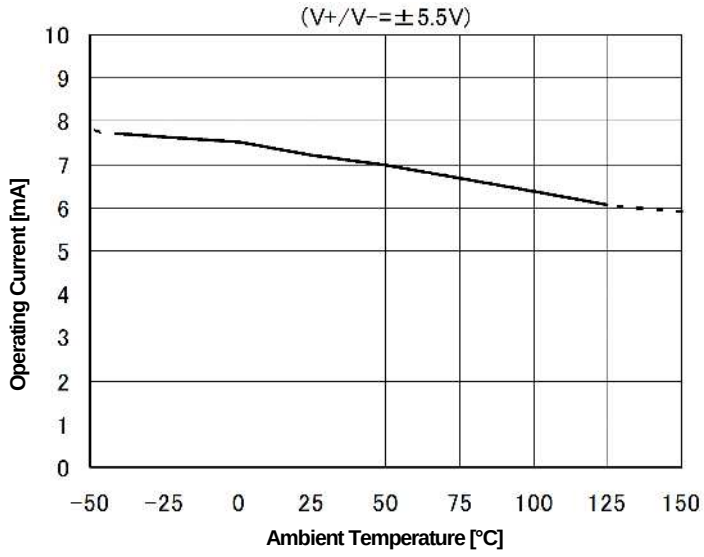
Maximum Output Voltage vs. Load resistance



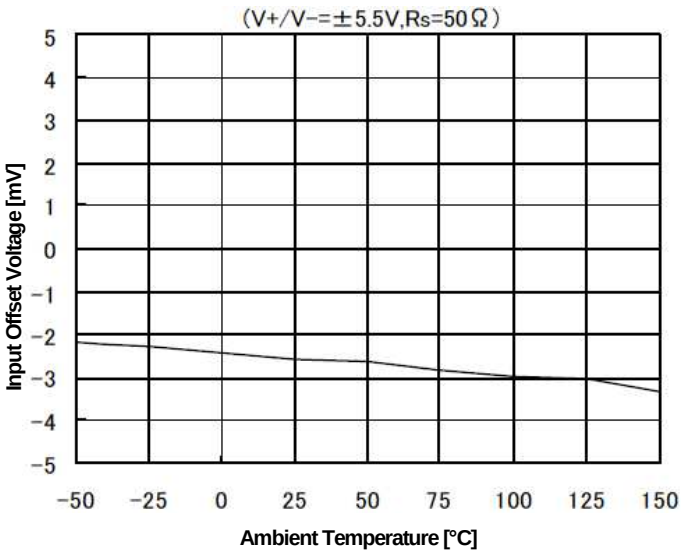
Equivalent Input Noise Voltage vs. Frequency



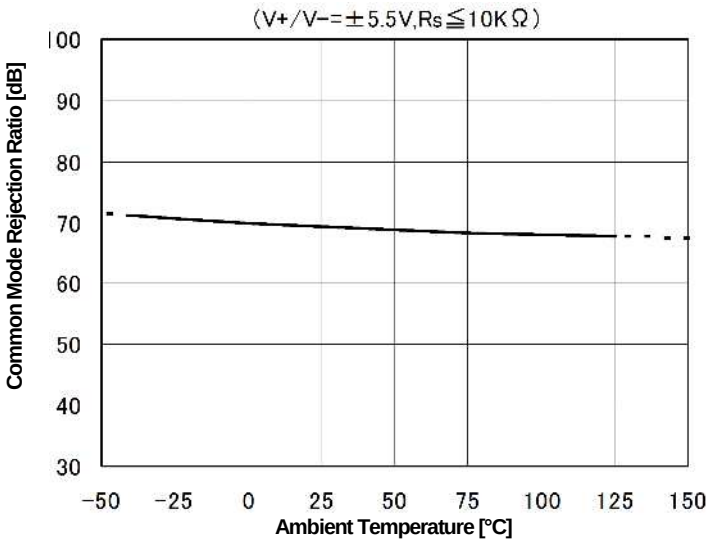
Operating Current vs. Temperature



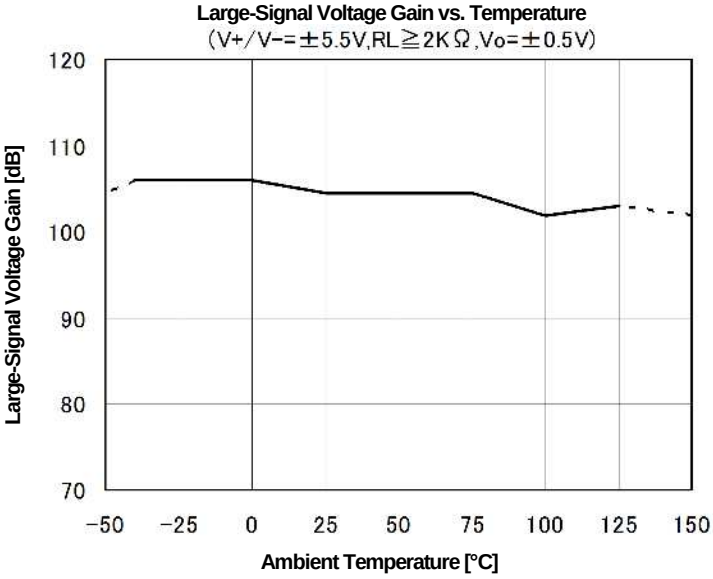
Input Offset Voltage vs. Temperature



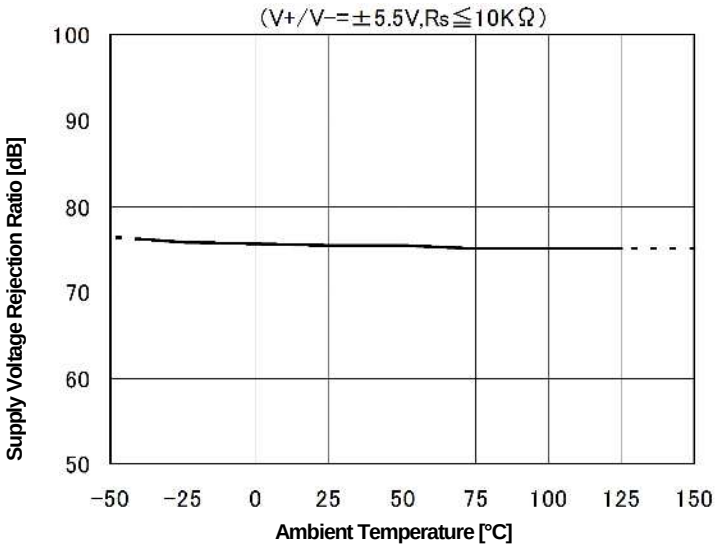
Common Mode Rejection Ratio vs. Temperature



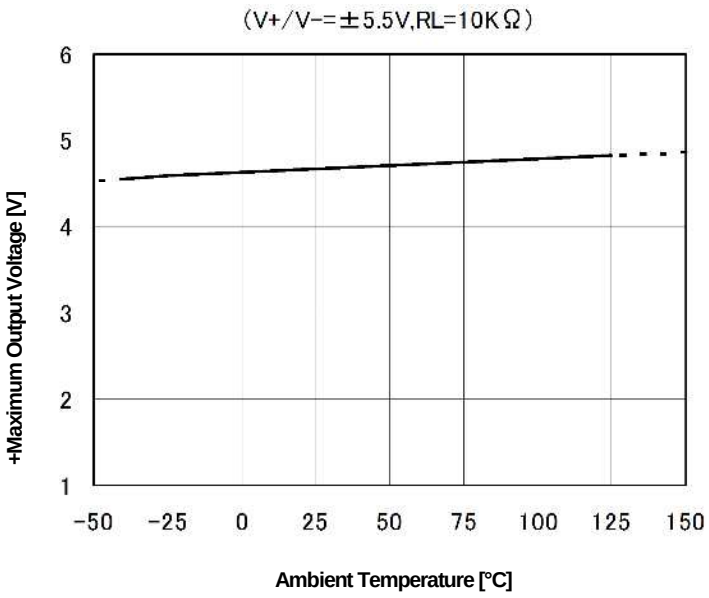
Large-Signal Voltage Gain vs. Temperature



Supply Voltage Rejection Ratio vs. Temperature



+ Maximum Output Voltage vs. Temperature



- Maximum Output Voltage vs. Temperature