

■ GENERAL DESCRIPTION

The NJM2147 is a dual high voltage and Low power operational amplifier IC.

The feature of high operating voltage is suitable for high supply voltage items, such as PBX, and others.

■ PACKAGE OUTLINE



NJM2147D

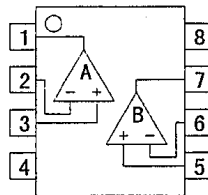


NJM2147M

■ FEATURES

- High Operating Voltage ($\pm 8V \sim \pm 28V$)
- High Slew Rate (0.5V/us typ.)
- Low Operating Current (175uA typ.)
- Short-Circuit Protection
- Package Outline DIP8, DMP8
- Bipolar Technology

■ PIN CONFIGURATION



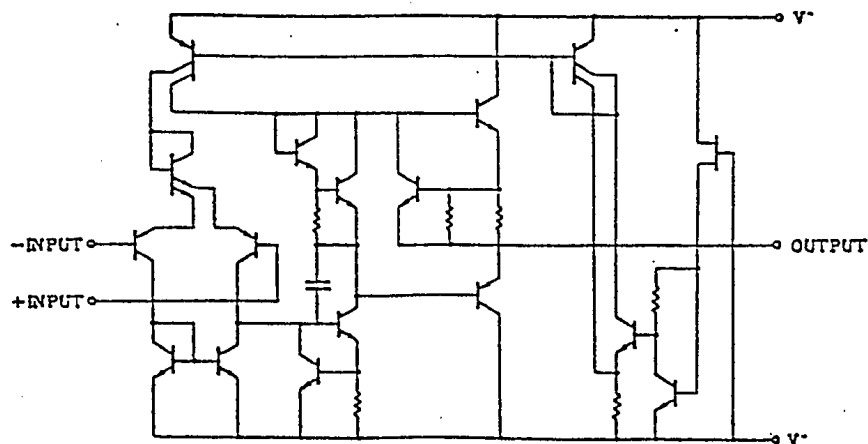
NJM2147D
NJM2147M

PIN FUNCTION

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

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■ EQUIVALENT CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ /V ⁻	±30	V
Input Voltage	V _{IC}	±28 (note)	V
Differential Input Voltage	V _{ID}	±30	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

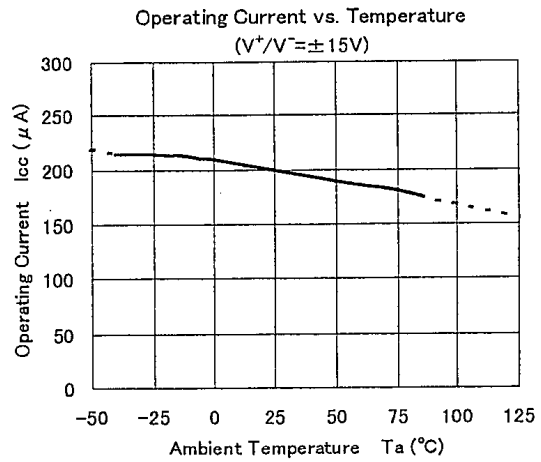
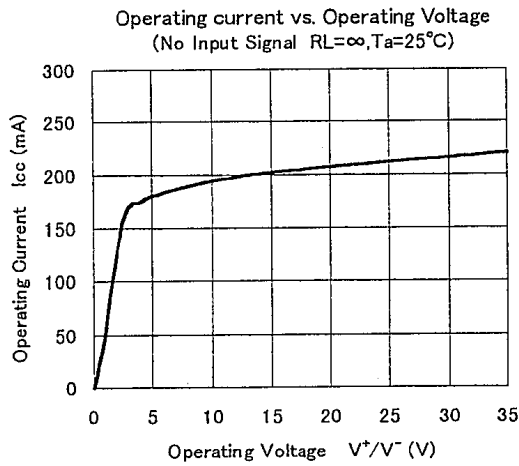
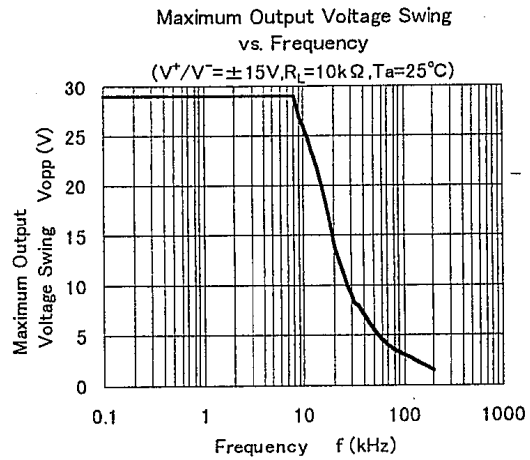
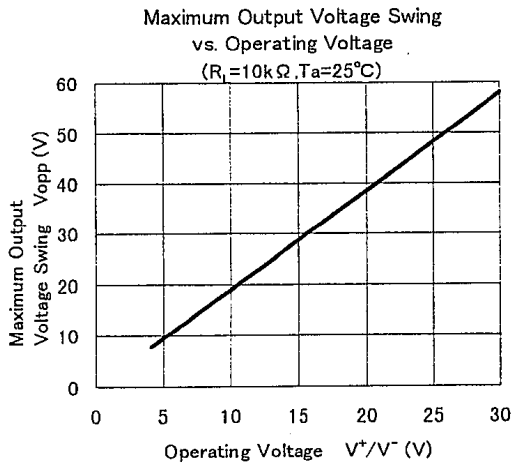
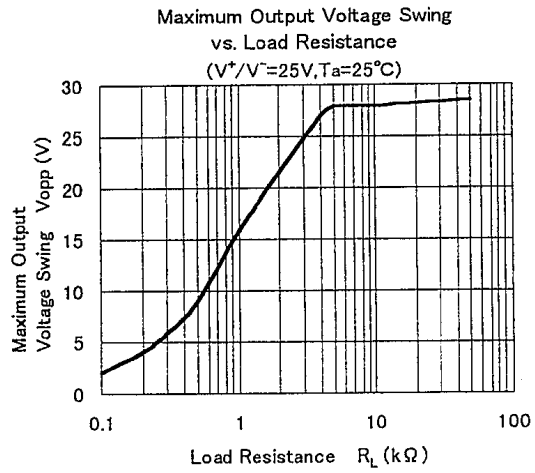
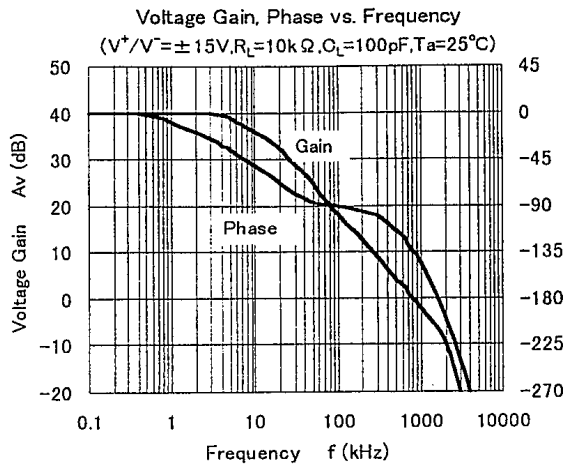
(note) When supply voltage is less than ±15V,
the absolute maximum input voltage is equal supply voltage.

■ ELECTRICAL CHARACTERISTICS (V⁺/V⁻=±15V, Ta=25°C)

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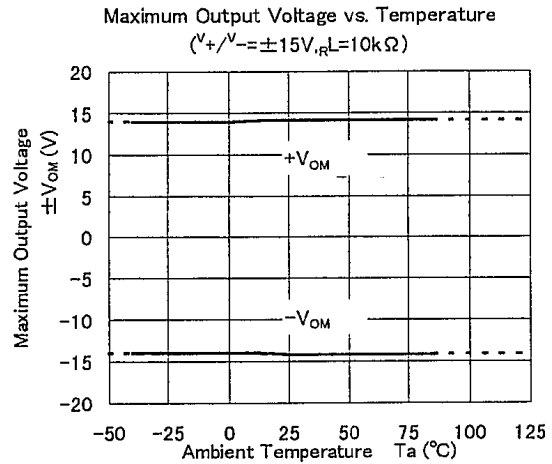
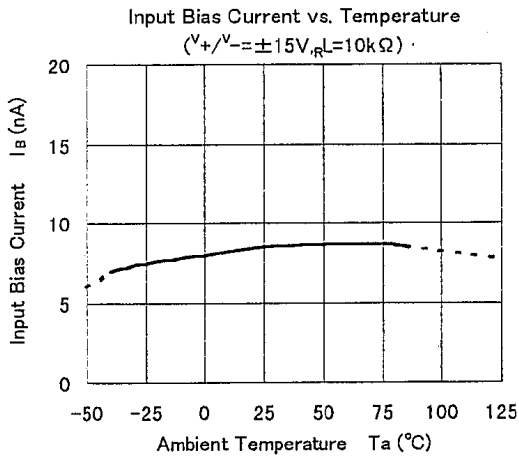
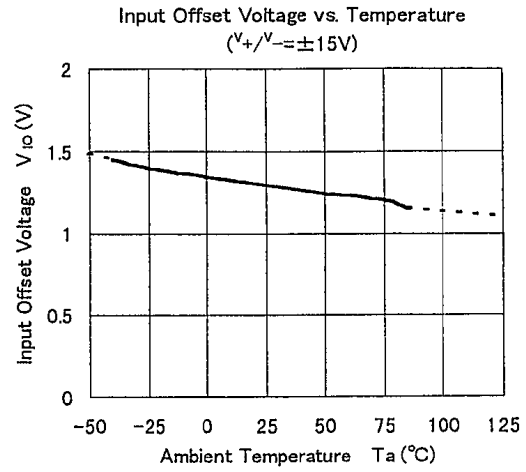
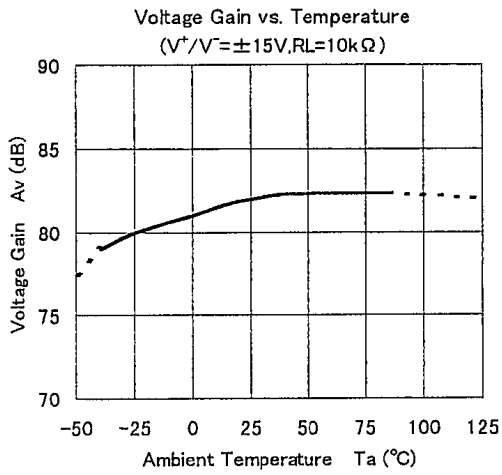
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V ⁺		±8	±15	±28	V
Input Offset Voltage	V _{IO}	R _S ≤ 10kΩ	—	1.0	5.0	mV
Input Bias Current	I _B		—	15	250	nA
Input Offset Voltage	I _{IO}		—	1	80	nA
Large Signal Voltage Gain	A _V	R _L ≥ 10kΩ, V _O = ±10V	60	88	—	dB
Input Common Mode	V _{ICM}		±12	±13	—	V
Voltage Range						
Common Mode	CMR	R _S ≤ 10kΩ, V _{IC} = ±12V	60	90	—	dB
Rejection Ratio						
Supply Voltage	SVR	R _S ≤ 10kΩ, V ⁺ /V ⁻ = ±14V ~ ±28V	74	110	—	dB
Rejection Ratio						
Maximum Peak-to-peak	V _{OM1}	R _L ≥ 10kΩ	±10	±14	—	V
Output Voltage Swing 1						
Maximum Peak-to-peak	V _{OM2}	R _L ≥ 50kΩ	±13	±14	—	V
Output Voltage Swing 2						
Operating Current	I _{CC}	R _L = ∞ (All Circuit)	—	175	300	uA
Short-circuit	I _{OS}		—	±6	—	mA
Output Current						
Slew Rate	SR	R _L = 10kΩ, C _L = 100pF, V _{IN} = 10V	—	0.5	—	V/us
Response Time (Rise Time)	t _R	R _L = 10kΩ, C _L = 100pF, V _{IN} = 20mV	—	0.3	—	us
Equivalent Input	e _n	A _V = 20dB, f = 1kHz	—	50	—	nV/√Hz
Noise Voltage						

■ TYPICAL CHARACTERISTICS



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TYPICAL CHARACTERISTICS



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NJM2147

MEMO

[CAUTION]

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