



■ 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

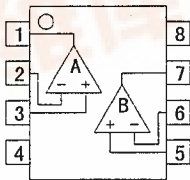


NJM2147M

■ 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

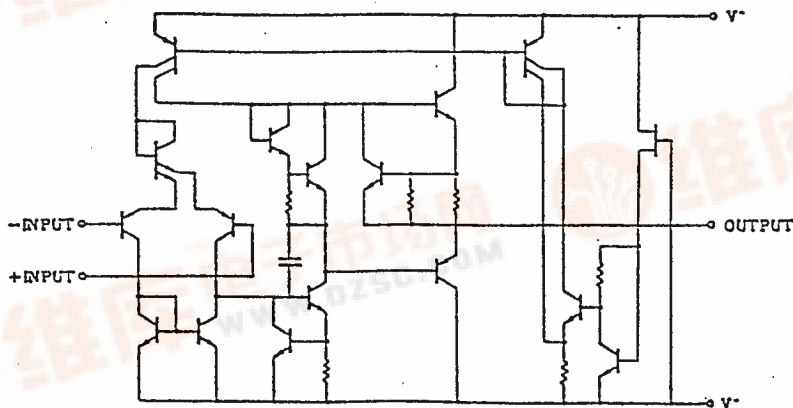


NJM2147D
NJM2147M

PIN FUNCTION

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

■ EQUIVALENT CIRCUIT



NJM2147

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

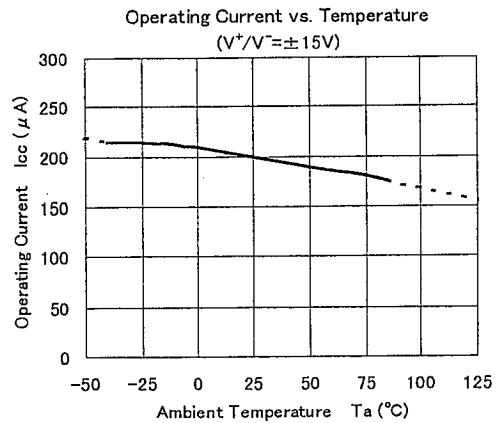
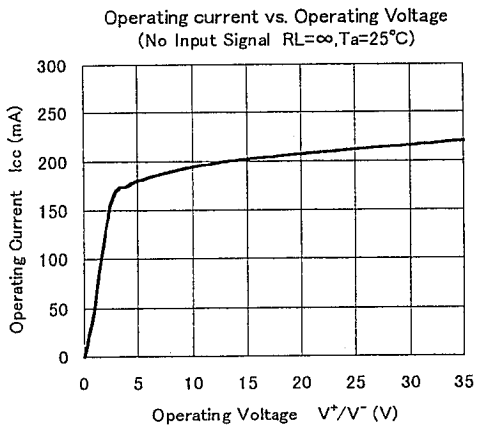
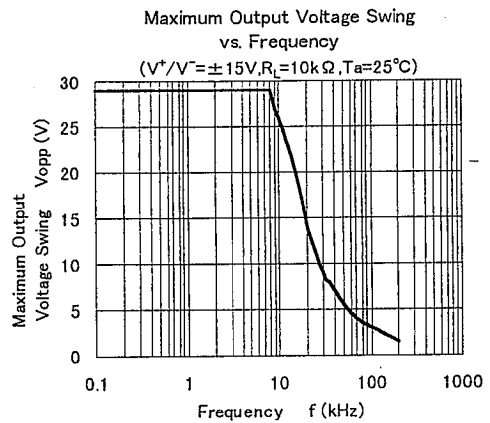
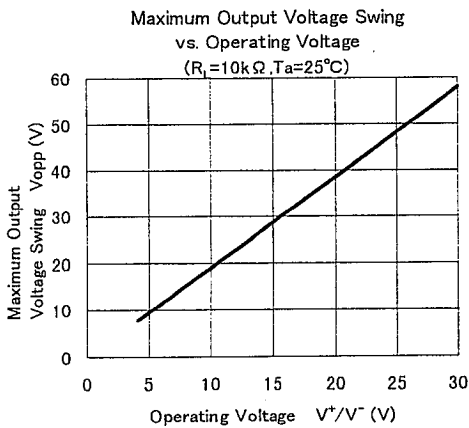
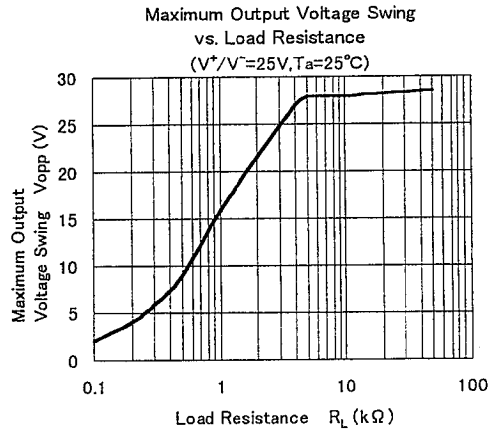
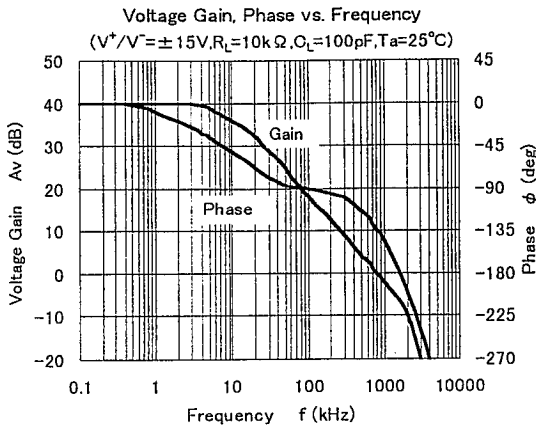
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ /V ⁻	±30	V
Input Voltage	V _{IC}	±28 (note)	V
Differential Input Voltage	V _{ID}	±30	V
Power Dissipation	P _D	(DIP8) 500 (DMP8) 300	mW
Operating Temperature Range	T _{OP}	-40 ~ +85	°C
Storage Temperature Range	T _{STG}	-40 ~ +125	°C

(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)

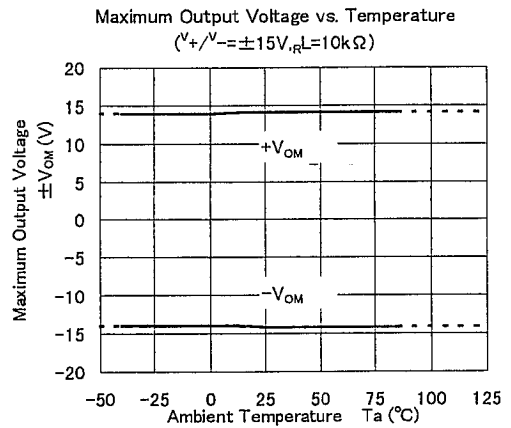
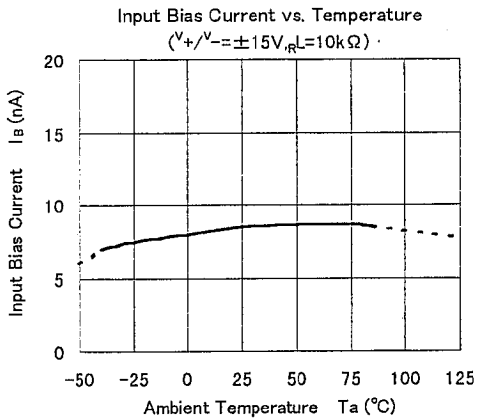
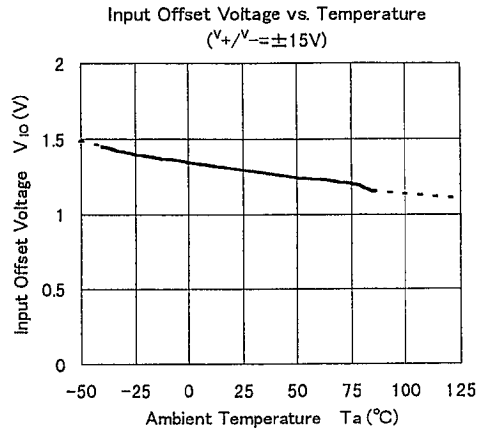
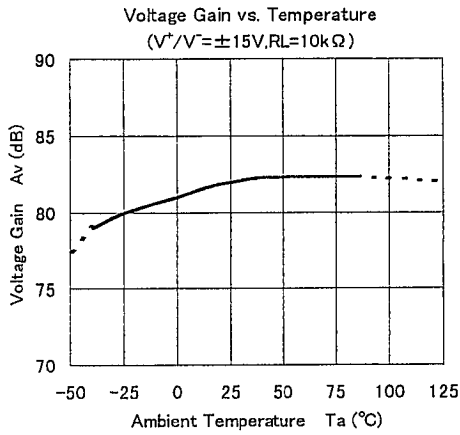
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V ⁺		±8	±15	±28	V
Input Offset Voltage	V _{IO}	R _S ≦ 10kΩ	—	1.0	5.0	mV
Input Bias Current	I _B		—	15	250	nA
Input Offset Voltage	I _{IO}		—	1	80	nA
Large Signal Voltage Gain	A _V	R _L ≧ 10kΩ, V _O =±10V	60	88	—	dB
Input Common Mode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

TYPICAL CHARACTERISTICS



NJM2147

TYPICAL CHARACTERISTICS



NJM2147

MEMO

[CAUTION]

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