

SINGLE-SUPPLY DUAL OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM2141 is a high gain, high output current dual operational amplifier in ultra miniature surface mount package, which drive $\pm 25\text{mA}$ at extremely low operating voltages ($V^+/V^- = \pm 2\text{V}$).

The NJM2141 realize wide bandwidth, low noise, high slew rate and low distortion, which is suitable for audio, telecommunication and instrumentation applications.

■ PACKAGE OUTLINE

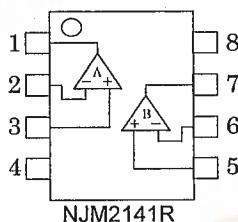


NJM2141R

■ FEATURES

- Operating Voltage $(\pm 2\text{V} \sim \pm 10\text{V})$
- Slew Rate $(3\text{V}/\mu\text{s typ.})$
- Bandwidth (8MHz typ.)
- High Output Current $(I_o = 25\text{mA})$
- Bipolar Technology
- Package Outline VSP8

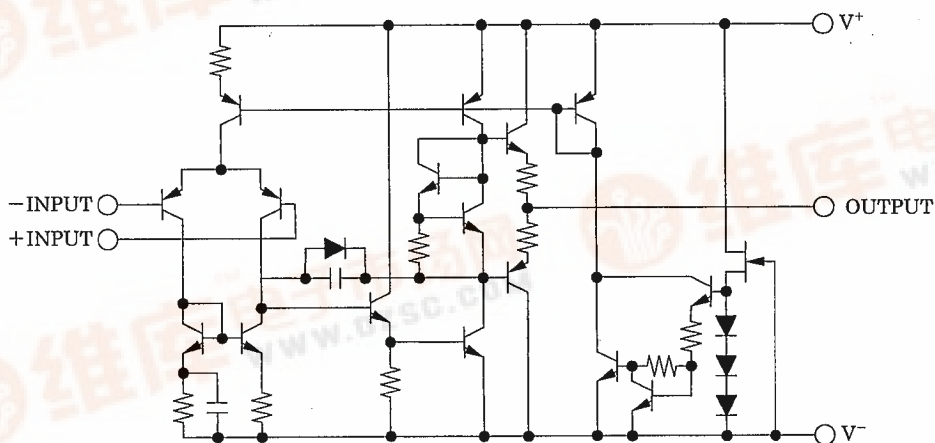
■ PIN CONFIGURATION



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)



NJM2141

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ /V ⁻	±10	V
Differential Input Voltage	V _{ID}	±15	V
Input Voltage	V _{IC}	±7.5(note 1)	V
Power Dissipation	P _D	320	mW
Operating Temperature Range	T _{opr}	-20~75	°C
Storage Temperature Range	T _{stg}	-40~125	°C

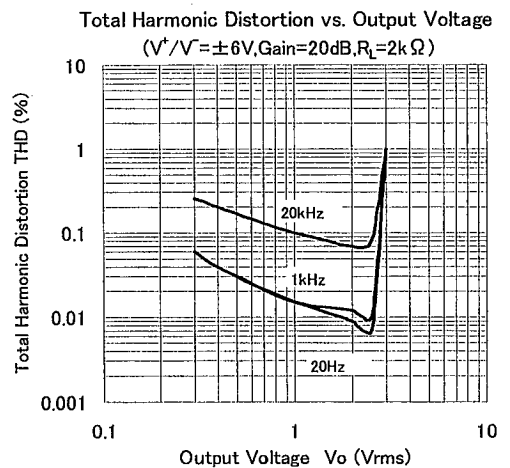
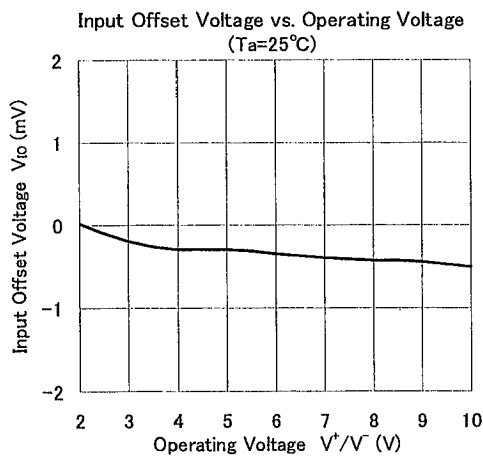
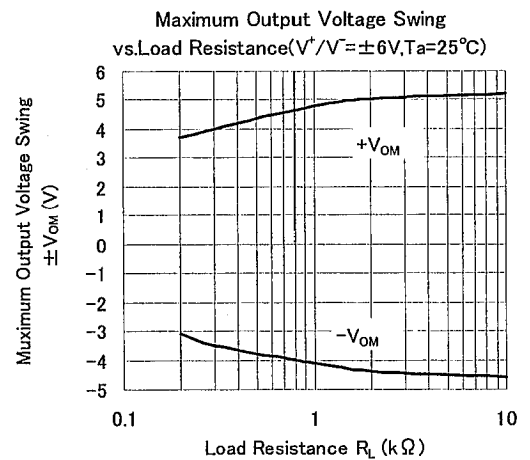
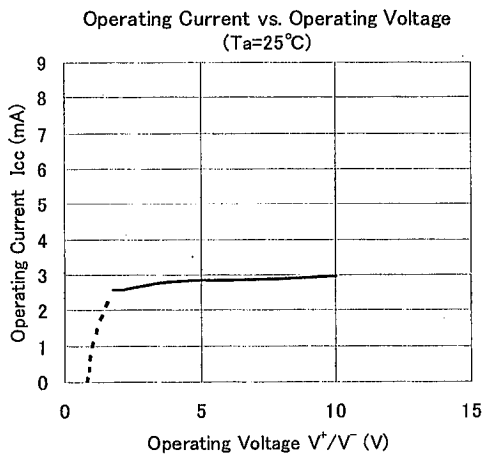
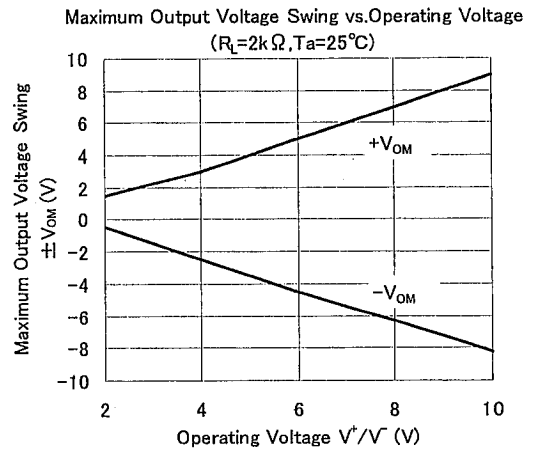
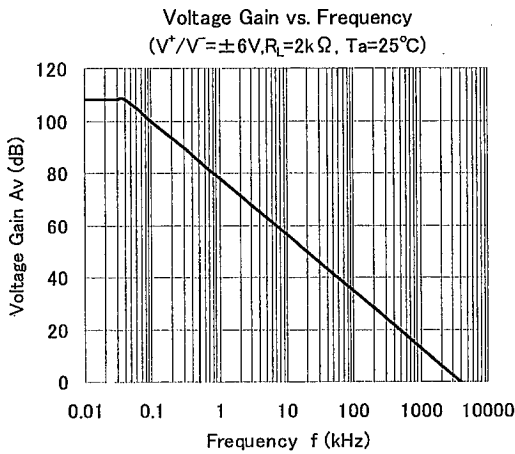
(note 1) : When input voltage is less than ±7.5V, the absolute maximum control voltage is equal to the input voltage.

■ ELECTRICAL CHARACTERISTICS

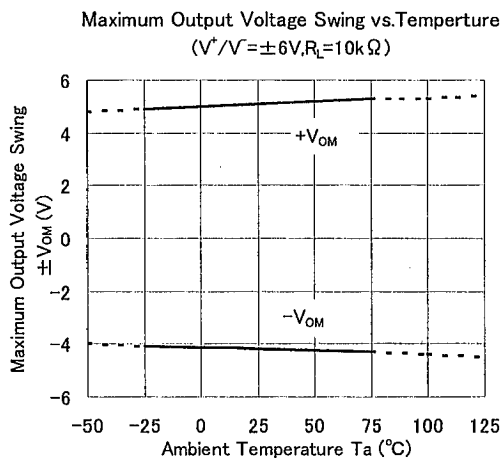
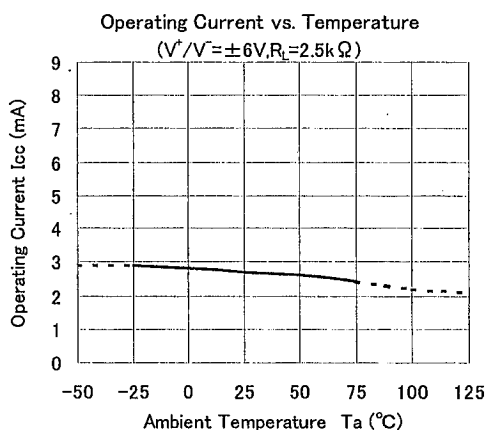
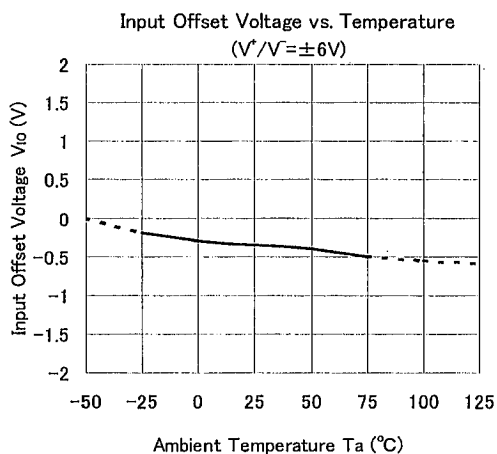
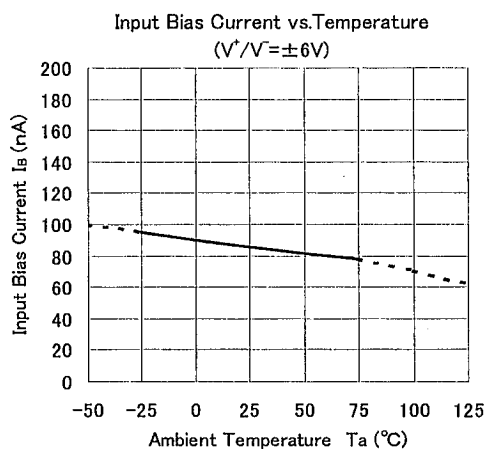
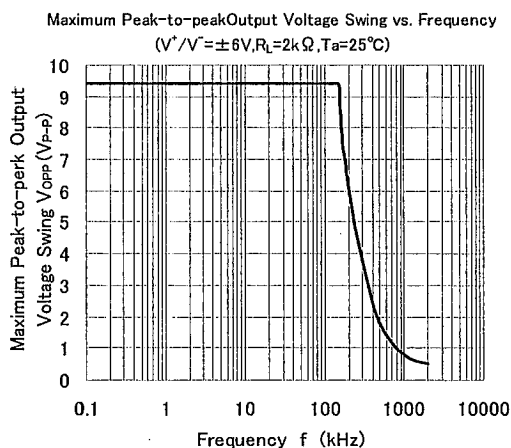
(V⁺/V⁻=5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	R _S =0Ω	—	0.5	6	mV
Input Offset Current	I _{IO}		—	5	200	nA
Input Bias Current	I _B		—	80	500	nA
Input Resistance	R _{IN}		0.3	2.5		MΩ
Large Signal Voltage Gain	A _V	R _L ≥2kΩ, V _O =±4V	86	100	—	dB
Maximum Output Voltage Swing1	V _{OM1}	R _L ≥2kΩ	+4.0 -3.5	+5.0 -4.5	—	V
Maximum Output Voltage Swing2	V _{OM2}	V ⁺ /V ⁻ =±9V, I _O =25mA	+4.0 -4.0	+6.0 -5.0	—	V
Input Common Mode Voltage Range	V _{ICM}		±4.0	±4.5	—	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	I _{CC}		—	2.7	5.7	mA
Slew Rate	SR		—	3	—	V/μs
Gain Bandwidth Product	GB		—	8	—	MHz
Equivalent Input Noise Voltage	V _{NI}	RIAA, R _S =2kΩ, 39kHz LPF	—	1.2	—	μVrms

TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS



NJM2141

MEMO

[CAUTION]
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