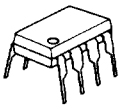
NJM3414

The NJM3414 integrated circuit is a high gain, high output current, high ouptput voltage swing dual operational amplifier capable of driving 70mA.

■ Absolute Maximum Ratings (Ta=25°C)

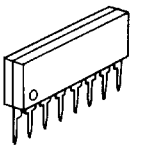
Supply Voltage	V^+ (V^+/V^-)	15V (or ±7.5V)
Differential Input Voltage	V_{ID}	15V
Input Voltage	V_I	−0.3～+15V
Power Disspation	P_D (D-Type)	500mW
	(M-Type)	300mW
	(L-Type)	800mW
Operating Temperature Range	T_{opr}	−20～+75°C
Storage Temperature Range	T_{stg}	−40～+125°C

■ Package Outline



NJM3414D

NJM3414M



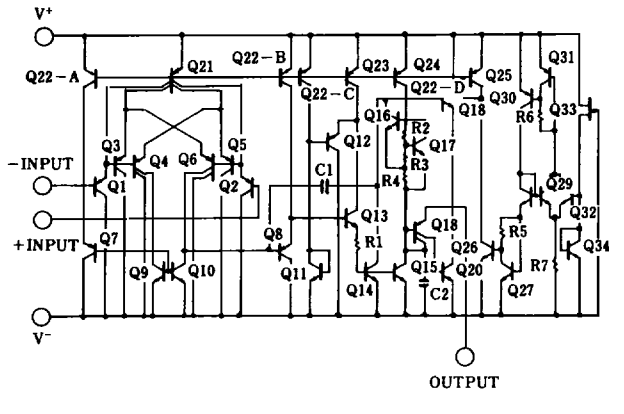
NJM3414L

※S-Type (SID-9) available

■ Electrical Characteristics (Ta=25°, V^+=8.6V)

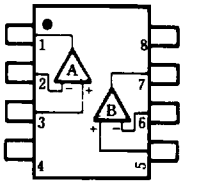
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V_{IO}	R_S=0Ω	—	2	5	mV
Input Offset Current	I_{IO}		—	5	100	nA
Input Bias Current	I_B		—	100	500	nA
Large Signal Voltage Gain	A_V	R_L=2kΩ	88	100	—	dB
Input Common Voltage Range	V_{ICM}		V^+−2	—	—	V
Maximum Output Voltage Swing 1	V_{OM1}	R_L≧2kΩ, V^+=5V	3.5	—	—	V
Maximum Output Voltage Swing 2	V_{OM2}	I_O=70mA, V^+=5V	3.2	—	—	V
Common Mode Rejection Ratio	CMR		80	90	—	dB
Supply Voltage Rejection Ratio	SVR		80	90	—	dB
Supply Current	I_{CC}	R_L=∞	3	4	5	mA
Slew Rate	SR		—	1.0	—	V/μS
Unity Gain Bandwidth	GB		—	1.3	—	MHz
Operating Voltage Range	V^+		—	—	10	V

■ Equivalent Circuit (½ Shown)



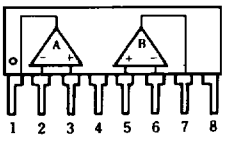
■ Connection Diagrams

D,M-Type
(Top View)



PIN FUNCTION
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. GND
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V^+

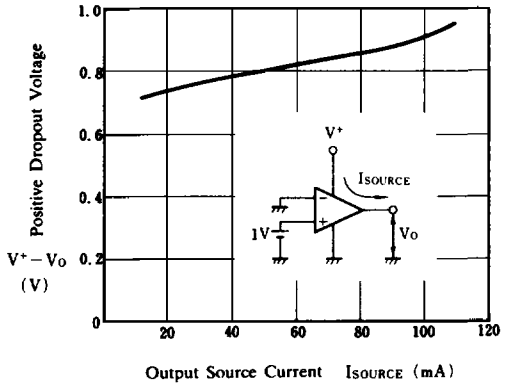
L-Type



■ Typical Characteristics

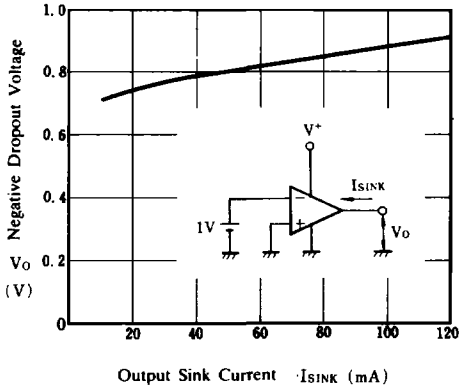
Output Source Current vs. V_{sat}^+

(V^+ = 5 V, Ta = 25°C)



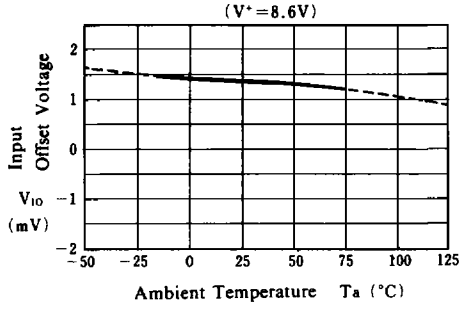
Output Sink Current vs. V_{sat}^-

(V^+ = 5 V, Ta = 25°C)



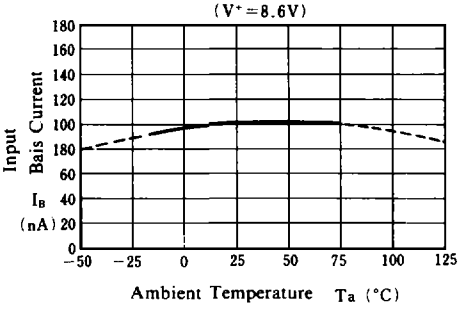
Input Offset Voltage vs. Temperature

(V^+ = 8.6V)



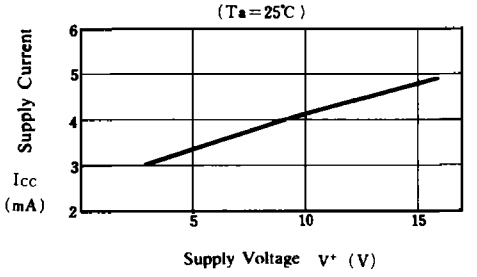
Input Bais Current vs. Temperature

(V^+ = 8.6V)



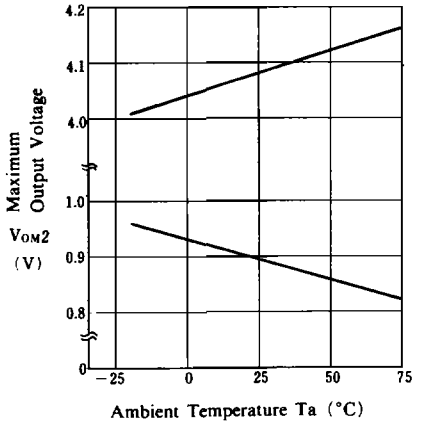
Supply Voltage vs. Quiescent Current

(Ta = 25°C)



Maximum Output Voltage Swing 2 vs. Temperature

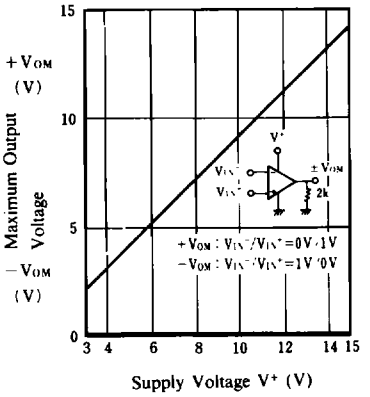
(V^+ = 5 V, Io = 70mA)



■ Typical Characteristics

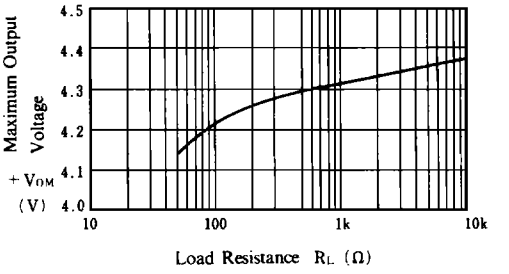
Maximum Output Voltage vs. Supply Voltage

(R_L=2kΩ, Ta=25°C)

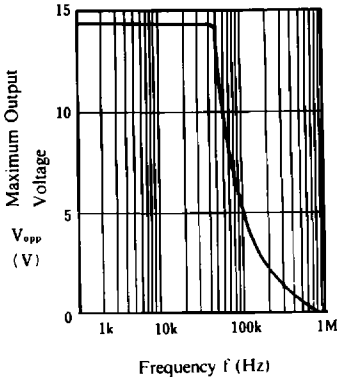


Maximum Output Voltage vs. Load Resistance

(V^+=5V)

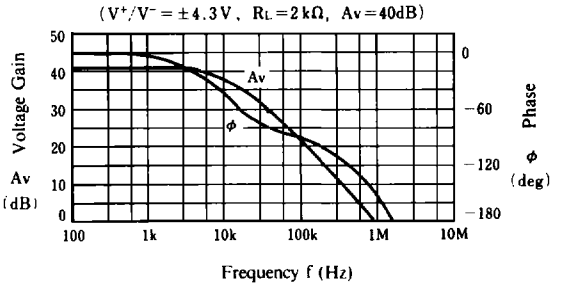


Maximum Output Voltage vs. Frequency



Voltage Gain, Phase vs. Frequency

(V^+/V^- = ±4.3V, R_L=2kΩ, Av=40dB)



Supply Current vs. Temperature

(V^+=8.6V)