

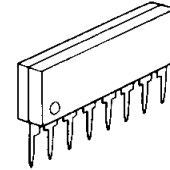
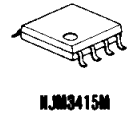
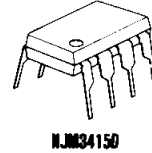
## NJM3415

The NJM3415 integrated circuit is a high gain, high output current, high output voltage swing dual operational amplifier capable of driving 70mA.

### Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V <sup>+</sup> (V <sup>+</sup> /V <sup>-</sup> )	15V (or ±7.5V)
Differential Input Voltage	V <sub>ID</sub>	15V
Input Voltage	V <sub>I</sub>	-0.3 ~ +15V
Power Dissipation	P <sub>D</sub> (D-Type)	500mW
	(M-Type)	300mW
	(L-Type)	800mW
Operating Temperature Range	T <sub>opr</sub>	-20 ~ +75°C
Storage Temperature Range	T <sub>stg</sub>	-40 ~ +125°C

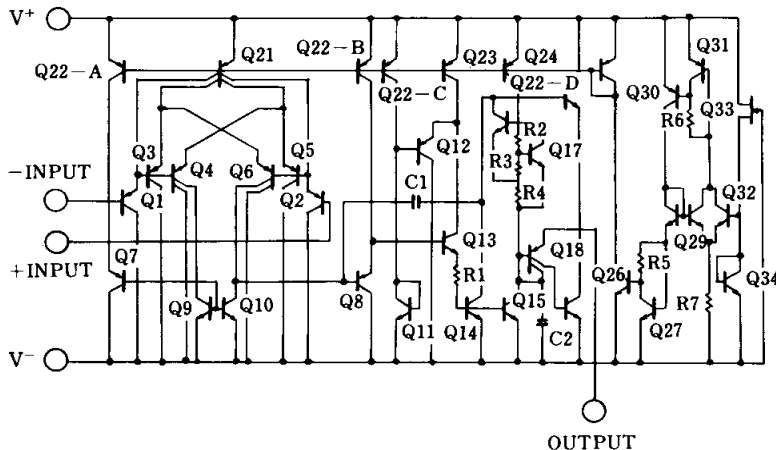
### Package Outline



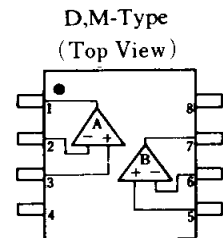
### Electrical Characteristics (Ta=25°C, V<sup>+</sup>=8.6V)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V <sub>IO</sub>	R <sub>S</sub> =0Ω	—	2	5	mV
Input Offset Current	I <sub>IO</sub>		—	±30	±100	nA
Input Bias Current	I <sub>B</sub>		—	100	500	nA
Large Signal Voltage Gain	A <sub>V</sub>	R <sub>L</sub> =2kΩ	88	100	—	dB
Input Common Mode Voltage Range	V <sub>ICM</sub>		V <sup>+</sup> -2	—	—	V
Maximum Output Voltage Swing 1	V <sub>OM1</sub>	R <sub>L</sub> ≥2kΩ, V <sup>+</sup> =5V	3.5	—	—	V
Maximum Output Voltage Swing 2	V <sub>OM2</sub>	I <sub>O</sub> =70mA, V <sup>+</sup> =5V	3.2	—	—	V
Common Mode Rejection Ratio	CMR		80	90	—	dB
Supply Voltage Rejection Ratio	SVR		80	90	—	dB
Supply Current	I <sub>CC</sub>	R <sub>L</sub> =∞	4.5	5.5	7.0	mA
Slew Rate	SR		—	1.0	—	V/μS
Unity Gain Bandwidth	GB		—	1.3	—	MHz
Operating Voltage Range	V <sup>+</sup>		—	—	10	V

### Equivalent Circuit (1/2 Shown)

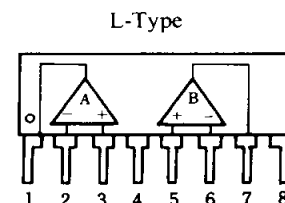


### Connection Diagrams



#### PIN FUNCTION

1. OUTPUT
2. A- INPUT
3. A+ INPUT
4. GND
5. B+ INPUT
6. B- INPUT
7. B OUTPUT
8. V<sup>+</sup>

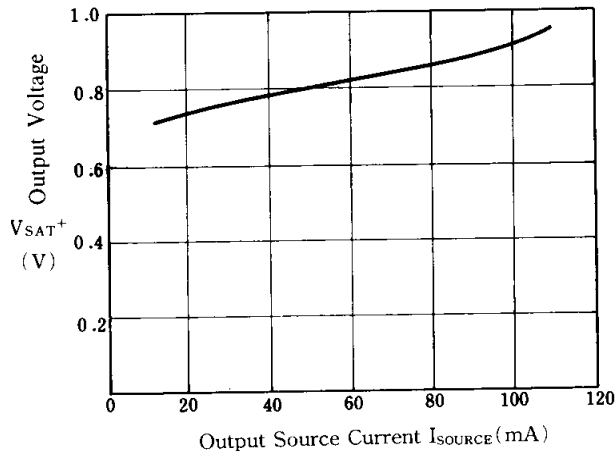


## ■ Typical Characteristics

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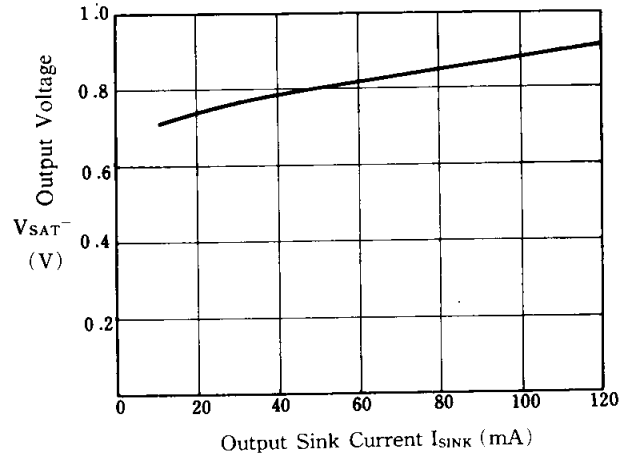
**V<sub>SAT</sub><sup>+</sup> vs. Output Source Current**

(V<sup>+</sup> = +5 V, T<sub>a</sub> = 25°C)



**V<sub>SAT</sub><sup>-</sup> vs. Output Sink Current**

(V<sup>+</sup> = +5 V, T<sub>a</sub> = 25°C)



**Supply Current vs. Supply Voltage**

(T<sub>a</sub> = 25°C)

