

DUAL HIGH OUTPUT POWER OPERATIONAL AMPLIFIER

NJM3415

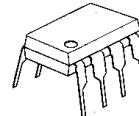
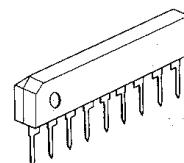
The NJM3415 integrated circuit is a high gain, high output current, high output voltage swing dual operational amplifier capable of driving 70mA.

■ Package Outline



■ Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V ⁺	15V (or $\pm 7.5V$)
Differential Input Voltage	V _{ID}	15V
Input Voltage	V _I	-0.3~15V
Power Dissipation	P _D (D,S-Type) (M,E-Type)	500mW 300mW
Operating Temperature Range	T _{opr}	-20~+75°C
Storage Temperature Range	T _{stg}	-40~+125°C

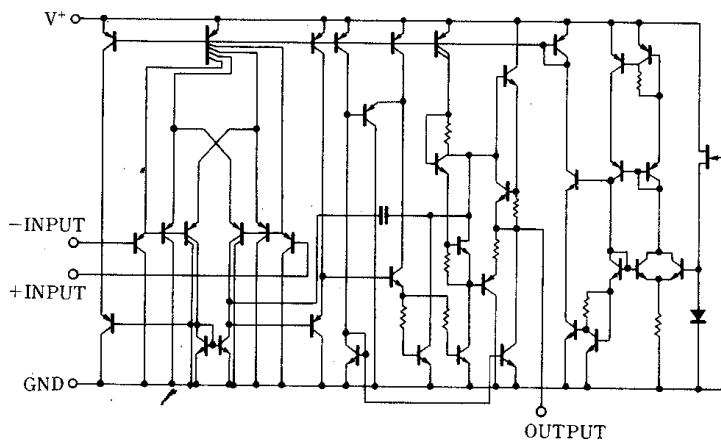
NJM3415M
NJM3415E

NJM3415S

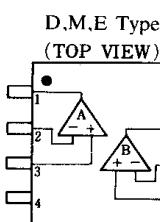
■ Electrical Characteristics (Ta=25°C, V⁺=8.6V)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V _{IO}	R _S =0Ω	—	2	5	mV
Input Offset Current	I _{IO}		—	± 30	± 100	nA
Input Bias Current	I _{IB}		—	100	500	nA
Large Signal Voltage Gain	A _V	R _L =2kΩ	25	100	—	V/mA
Input Common Mode Voltage Range	V _{ICM}		V ⁺ ~2	—	—	V
Maximum Output Voltage Swing I	V _{OM} I	R _L \geq 2kΩ, V ⁺ =5V	3.5	—	—	V
Maximum Output Voltage Swing II	V _{OM} II	I _O =70mA, V ⁺ =5V	3.2	—	—	V
Common Mode Rejection Ratio	CMR		80	90	—	dB
Supply Voltage Rejection Ratio	SVR		80	90	—	dB
Quiescent Current	I _Q	R _L =∞	4.5	5.5	7.0	mA
Slew Rate	SR	A _V =1	—	1.0	—	V/μs
Unity Gain Bandwidth	f _T		—	1.3	—	MHz
Operating Voltage Range	V ⁺		—	—	10	V

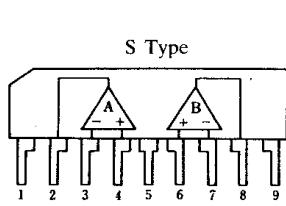
■ Equivalent Circuit (1/2 Shown)



■ Connection Diagrams

D,M,E Type
(TOP VIEW)

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



S Type

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