

NJM4558/4559

The 4558/4559 integrated circuit are a dual high-gain operational amplifier internally compensated and constructed on a single silicon chip using an advanced epitaxial process.

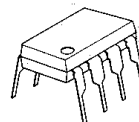
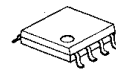
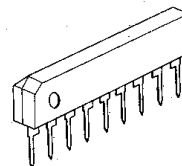
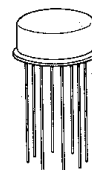
Combining the features of the 741 with the close parameter matching and tracking of a dual device on a monolithic chip results in unique performance characteristics. Excellent channel separation allow the use of the dual device in single 741 operational amplifier applications providing density. It is especially well suited for applications in differential-in, differential-out as well as in potentiometric amplifiers and where gain and phase matched channels are mandatory.

■ Absolute Maximum Ratings

Supply Voltage	V^+/V^-	$\pm 18V$
Differential Input Voltage	V_{ID}	$\pm 30V$
Input Voltage (note)	V_I	$\pm 15V$
Power Dissipation	P_D (D,S,T-Type)	500mW
	(M,E-Type)	300mW
Operating Temperature Range	T_{opr}	$-20 \sim +75^\circ C$
Storage Temperature Range	T_{stg} (T-Type)	$-65 \sim +150^\circ C$
Storage Temperature Range	T_{stg} (D,M,S,E-Type)	$-40 \sim +125^\circ C$

(note) For supply voltage less than $\pm 15V$, the absolute maximum input voltage is equal to the supply voltage.

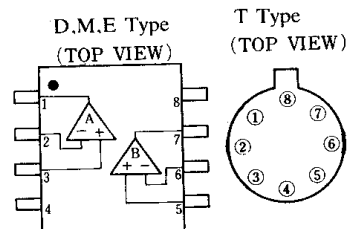
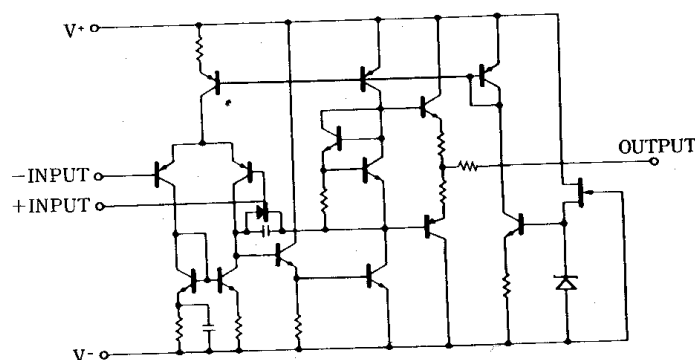
■ Package Outline

NJM4558D
NJM4559DNJM4558M/4558E
NJM4559M/4559ENJM4558S
NJM4559SNJM4558T
NJM4559T■ Electrical Characteristics ($T_a = 25^\circ C$, $V^+ = 15V$, $V^- = -15V$)

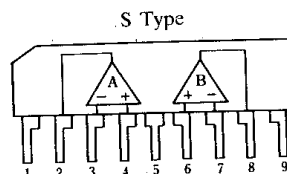
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V_{IO}	$R_S \leq 10k\Omega$	—	0.5	6	mV
Input Offset Current	I_{IO}		—	5	200	nA
Input Bias Current	I_{IB}		—	50	500	nA
Input Resistance	R_{ID}		0.3	5	—	M Ω
Large Signal Voltage Gain	A_V	$R_L \geq 2k\Omega$, $V_O = \pm 10V$	20	100	—	$\times 10^3$
Maximum Output Voltage Swing 1	V_{OM1}	$R_L \geq 10k\Omega$	± 12	± 14	—	V
Maximum Output Voltage Swing 2	V_{OM2}	$R_L \geq 2k\Omega$	± 10	± 13	—	V
Input Common Mode Voltage Range	V_{ICM}		± 12	± 14	—	V
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	70	90	—	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	—	30	150	$\mu V/V$
Power Dissipation	P_D		—	105	170	mW
Slew Rate			—	1	—	V/ μs
NJM4558	SR	$R_L \geq 2k\Omega$	—	2	—	V/ μs
NJM4559	SR	$R_L \geq 2k\Omega$	—	2.5	—	$\mu Vrms$
Equivalent Input Noise Voltage	V_{NI}	$R_S = 1k\Omega$, BW = 10Hz~30kHz	—	—	—	

■ Connection Diagram

■ Equivalent Circuit (1/2 Shown)



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



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