

NJM2043

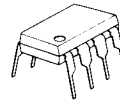
NJM2043 is bipolar operational amplifier which is designed as low noise version of the NJM4558 with high output current and fast slew rate (6V/ μ s) and wide unity bandwidth (14MHz) constructed using New JRC Planar epitaxial process.

Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V^+/V^-	$\pm 22V$
Differential Input Voltage	V_{ID}	$\pm 30V$
Input Voltage (note)	V_I	$\pm 15V$
Power Dissipation	P_D (D-Type)	500mW
	(M-Type)	300mW
	(L-Type)	800mW
Operating Temperature Range	T_{opr}	$-20 \sim +75^\circ C$
Storage Temperature Range	T_{stg}	$-40 \sim +125^\circ C$

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

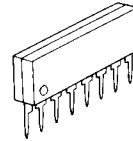
Package Outline



NJM2043D



NJM2043M



NJM2043L

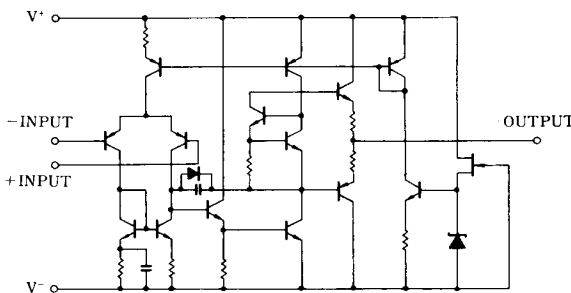
Electrical Characteristics (Ta=25°C, $V^+/V^- = \pm 15V$)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V_{IO}	$R_S \leq 10k\Omega$	—	0.3	3	mV
Input Offset Current	I_{IO}		—	10	200	nA
Input Bias Current	I_B		—	400	1000	nA
Input Resistance	R_{IN}		30	100	—	k Ω
Large-signal Voltage Gain	A_V	$R_L \geq 2k\Omega, V_O = \pm 10V$	86	100	—	dB
Maximum Output Voltage Swing 1	V_{OM1}	$R_L \geq 10k\Omega$	± 12	± 14	—	V
Maximum Output Voltage Swing 2	V_{OM2}	$I_O = 25mA$	± 10	± 11.5	—	V
Input Common Mode Voltage Range	V_{ICM}		± 12	± 14	—	V
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	70	100	—	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	76	100	—	dB
Supply Current	I_{CC}		—	6	8	mA
Slew Rate	SR		—	6	—	V/ μ s
Unity Gain Bandwidth	f_T		—	14	—	MHz
Equivalent Input Noise Voltage 1	V_{NI1}^*	RIAA $R_S = 2.2k\Omega$, 30kHz LPF	—	0.9	1.4	μ V
Equivalent Input Noise Voltage 2	V_{NI2}	FLAT + JISA $R_S = 300\Omega$	—	0.4	0.51	μ V

* Applies to noise D rank only.

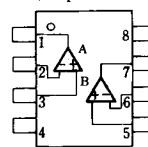
Closed loop gain should be more than 20dB at use.

Equivalent Circuit (1/2 Shown)



Connection Diagram

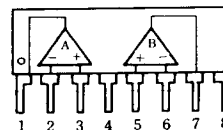
D,M-Type
(Top View)



PIN FUNCTION

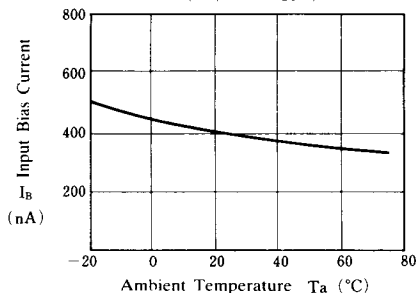
1. A OUTPUT
2. A-INPUT
3. A+INPUT
4. V^-
5. B+INPUT
6. B-INPUT
7. B OUTPUT
8. V^+

L-Type

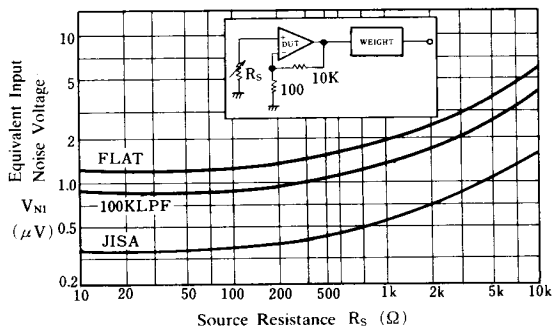


■ Typical Characteristics

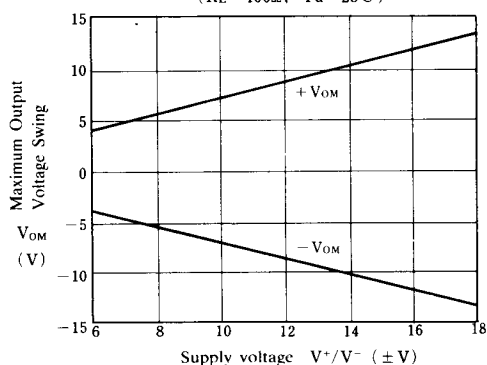
**Input Bias Current
vs.
Ambient Temperature**
($V^+/V^- = \pm 15V$)



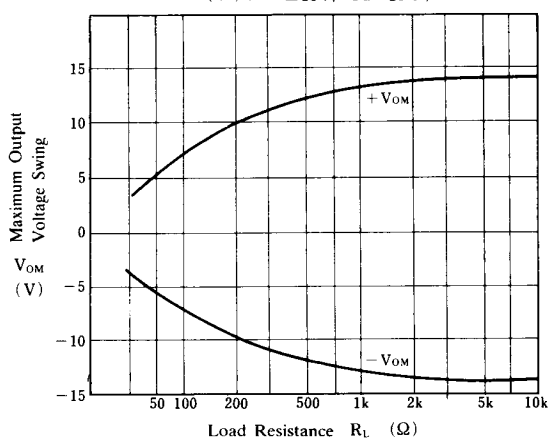
Equivalent Input Noise Voltage
($V^+/V^- = \pm 15V$, $T_a = 25^\circ C$)



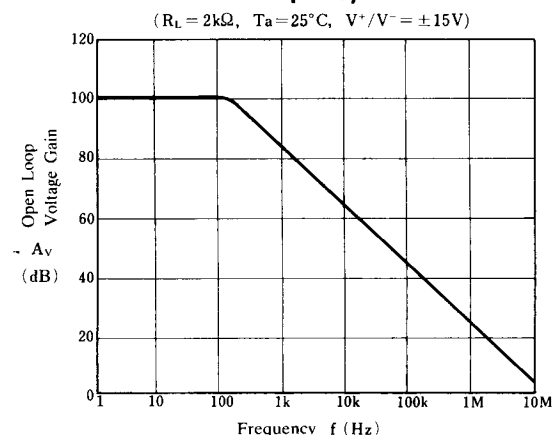
**Maximum Output Voltage Swing
vs.
Supply Voltage**
($R_L = 400\Omega$, $T_a = 25^\circ C$)



**Maximum Output Voltage Swing
vs. Load Resistance**
($V^+/V^- = \pm 15V$, $T_a = 25^\circ C$)



**Open Loop Voltage Gain
vs.
Frequency**
($R_L = 2k\Omega$, $T_a = 25^\circ C$, $V^+/V^- = \pm 15V$)



**Maximum Output Voltage Swing
vs. Supply Voltage**
($R_L = 2k\Omega$)

