NJM2043

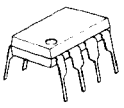
NJM2043 is bipolar operational amplifier which is designed as low noise version of the NJM4558 with high output current and fast slew rate (6V/μs) and wide unity bandwidth (14MHz) constructed using New JRC Planar epitaxial process.

■ Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V^+/V^-	±22V
Differential Input Voltage	V_{ID}	±30V
Input Voltage (note)	V_I	±15V
Power Dissipation	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

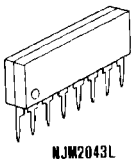
(note) For supply voltages less than ±15V, the absolute maximum input voltage is equal to the supply voltage.

■ Package Outline



NJM2043D

NJM2043M



NJM2043L

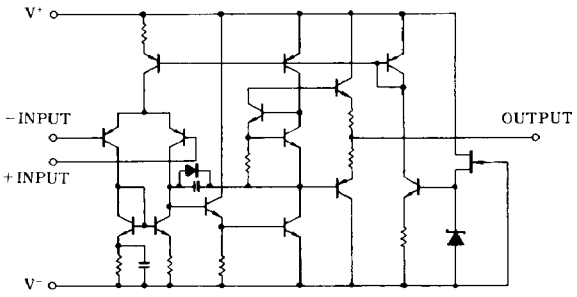
■ Electrical Characteristics (Ta=25°C, $V^+/V^-=\pm15V$)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V_{IO}	$R_S \leqq 10k\Omega$	—	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	—	kΩ
Large-signal Voltage Gain	A_V	$R_L \geqq 2k\Omega$, $V_O=\pm10V$	86	100	—	dB
Maximum Output Voltage Swing 1	V_{OM1}	$R_L \geqq 10k\Omega$	±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	$R_S \leqq 10k\Omega$	70	100	—	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leqq 10k\Omega$	76	100	—	dB
Supply Current	I_{CC}		—	6	8	mA
Slew Rate	SR		—	6	—	V/μs
Unity Gain Bandwidth	f_T		—	14	—	MHz
Equivalent Input Noise Voltage 1	V_{NI} 1*	RIAA $R_S=2.2k\Omega$, 30kHz LPF	—	0.9	1.4	μV
Equivalent Input Noise Voltage 2	V_{NI} 2	FLAT+JISA $R_S=300\Omega$	—	0.4	0.51	μV

* Applies to noise D rank only.

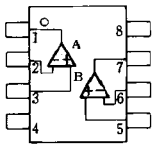
Closed loop gain should be more than 20dB at use.

■ Equivalent Circuit (½ Shown)



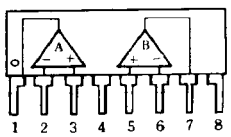
■ Connection Diagram

D,M-Type
(Top View)



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

L-Type

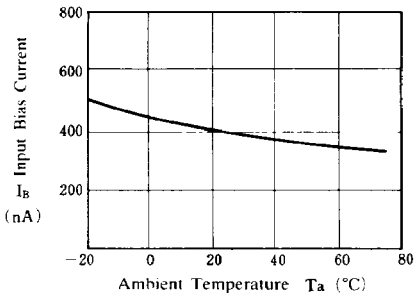


2

■ **Typical Characteristics**

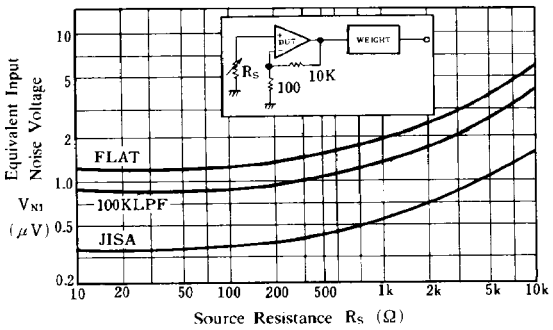
Input Bias Current vs. Ambient Temperature

($V^+/V^-=\pm15V$)



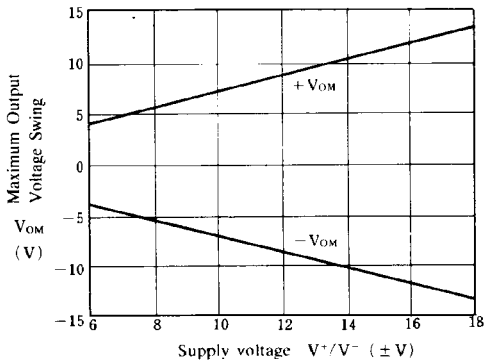
Equivalent Input Noise Voltage

($V^+/V^-=\pm15V$, Ta=25°C)



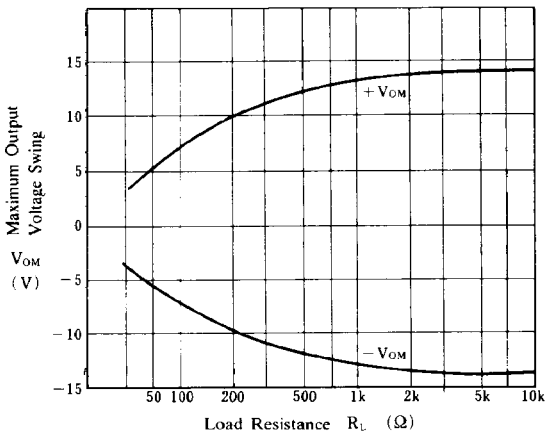
Maximum Output Voltage Swing vs. Supply Voltage

($R_L=400\Omega$, Ta=25°C)



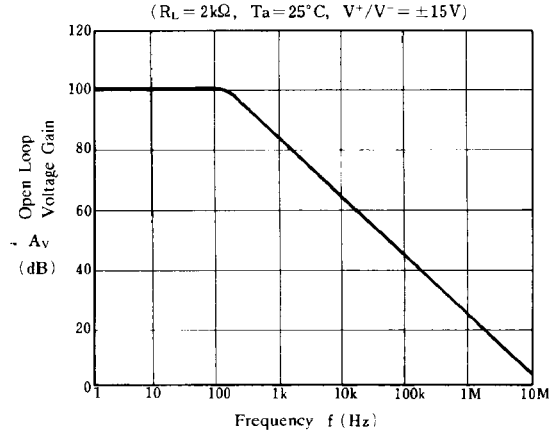
Maximum Output Voltage Swing vs. Load Resistance

($V^+/V^-=\pm15V$, Ta=25°C)



Open Loop Voltage Gain vs. Frequency

($R_L=2k\Omega$, Ta=25°C, $V^+/V^-=\pm15V$)



Maximum Output Voltage Swing vs. Supply Voltage

($R_L=2k\Omega$)