DUAL LOW-NOISE PREAMPLIFIER

NJM2043

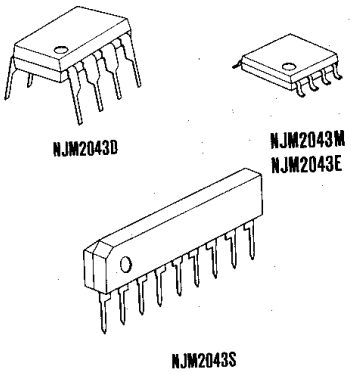
NJM2043 is bipolar operational amplifier which is designed as low noise version of the NJM4558 with high output current and fast slew rate (6V/μs) and wide unity bandwidth (14MHz) constructed using New JRC Planar epitaxial process.

■ 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, S-Type)	500mW
	(M,E Type)	300mW
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



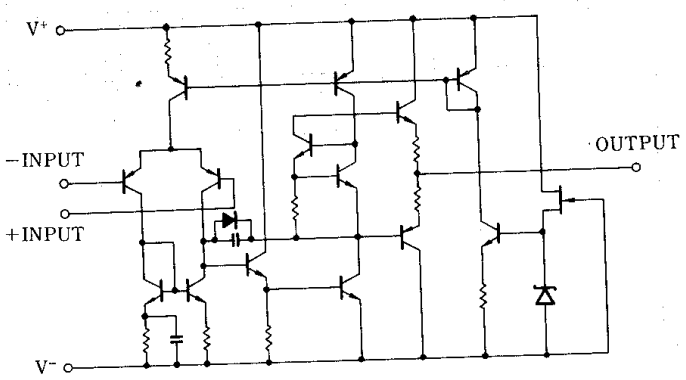
■ Electrical Characteristics (Ta=25°C, V^+=15V, V^-=−15V)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V_{IO}	R_S≦10kΩ	—	0.3	3	mV
Input Offset Current	I_{IO}		—	10	200	nA
Input Bias Current	I_{IB}		—	400	1000	nA
Input Resistance	R_{IN}		30	100	—	kΩ
Large-signal Voltage Gain	A_V	R_L≧2kΩ, V_O=±10V	20	100	—	×10³
Maximum Output Voltage Swing 1	V_{OM} 1	R_L≧10kΩ	±12	±14	—	V
Maximum Output Voltage Swing 2	V_{OM} 2	I_O=25mA	±10	±11.5	—	V
Input Common Mode Voltage Range	V_{ICM}		±12	±14	—	V
Common Mode Rejection Ratio	CMR	R_S≦10kΩ	70	100	—	dB
Supply Voltage Rejection Ratio	SVR	R_S≦10kΩ	—	10	150	μV/V
Supply Current	I_{CC}		—	6	8	mA
Slew Rate	SR	R_L≧2kΩ	—	6	—	V/μs
Unity Gain Bandwidth	f_T	A_V=1	—	14	—	MHz
Equivalent Input Noise Voltage 1	V_{NI} 1*	RIAA R_S=2.2kΩ, 30kHz LPF	—	0.9	1.4	μV
Equivalent Input Noise Voltage 2	V_{NI} 2	FLAT+JISA R_S=300Ω	—	0.4	0.51	μV

* Applies to noise D rank only.

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

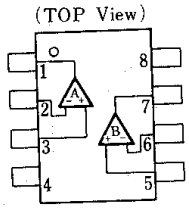
■ Equivalent Circuit (½ Shown)



■ Connection Diagram

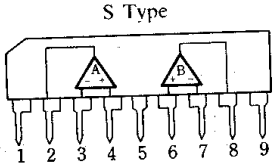
D,M,E Type

(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^+

S Type



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^+