NJM741

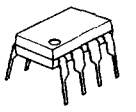
The NJM741 is a high performance Monolithic Operational Amplifier constructed using the New JRC Planar epitaxial process. It is intended for a wide range of analog applications. High common mode voltage range and absence of latch-up tendencies make the NJM741 ideal for use as a voltage follower. The high gain and wide range of operating voltage provides superior performance in integrator, summing amplifier, and general feedback applications.

■ Absolute Maximum Ratings (Ta=25°C)

Supply Voltage	V^+/V^-	±18V
Input Voltage (note)	V_I	±15V
Differential Input Voltage	V_{ID}	±30V
Power Dissipation	P_D (D-Type)	500mW
	(M-Type)	300mW
	(V-Type)	250mW
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



NJM741D

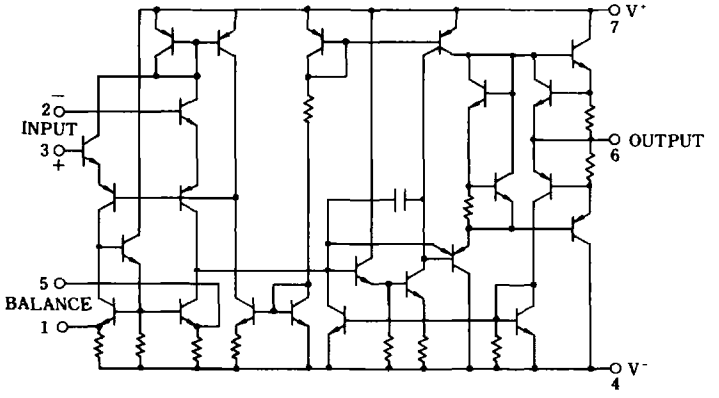
NJM741M
NJM741E

NJM741V

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

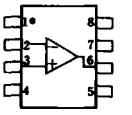
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Offset Voltage	V_{IO}	$R_S \leq 10k\Omega$	—	2.0	6.0	mV
Input Offset Current	I_{IO}		—	5	200	nA
Input Bias Current	I_{IB}		—	30	500	nA
Input Resistance	R_{IN}		0.3	2.0	—	MΩ
Large-signal Voltage Gain	A_V	$R_L \geq 2k\Omega$, $V_O = \pm 10V$	86	110	—	dB
Maximum Output Voltage Swing I	V_{OM1}	$R_L \geq 10k\Omega$	±12	±14	—	V
Maximum Output Voltage Swing II	V_{OM2}	$R_L \geq 2k\Omega$	±10	±13	—	V
Input Common Mode Voltage Range	V_{ICM}		±12	±13	—	V
Voltage Rejection Ratio	CMR	$R_S \leq 10k\Omega$	70	100	—	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	76.5	100	—	dB
Supply Current	I_{CC}		—	1.7	2.8	mA
Slew Rate	SR	$R_L \geq 2k\Omega$	—	0.5	—	V/μs
Transient Response (Unity Gain) (Rise Time)	t_r	V_{IN}=20mV, R_L=2kΩ, C_L=100pF	—	0.3	—	μs
Transient Response (Unity Gain) (Overshoot)	t_o	V_{IN}=20mV, R_L=2kΩ, C_L=100pF	—	5.0	—	%

■ Equivalent Circuit



■ Connection Diagram

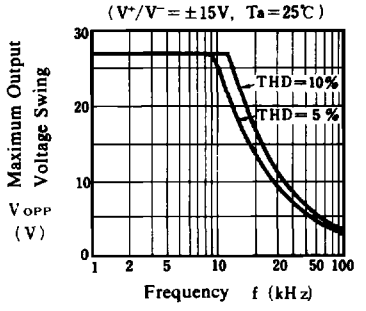
D,M,V-Type
(Top View)



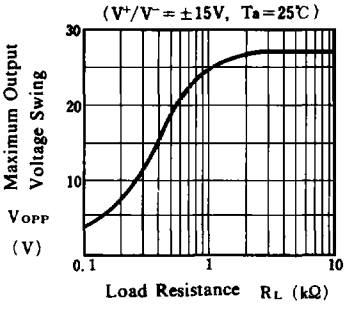
PIN FUNCITON
1. V_{OS} Trim
2. − Input
3. + Input
4. V^-
5. V_{OS} Trim
6. Output
7. V^+
8. NC

■ Typical Characteristics

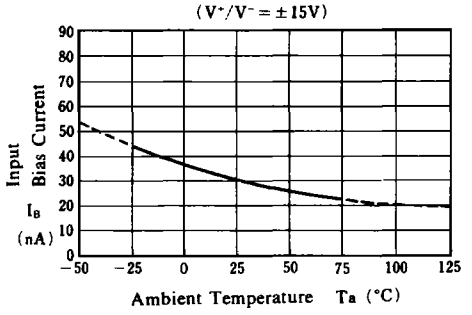
Maximum Output Voltage Swing vs. Frequency



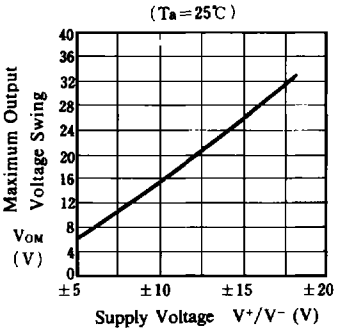
Maximum Output Voltage Swing vs. Load Resistance



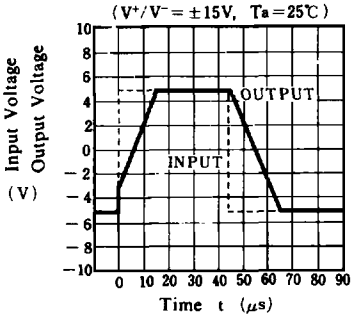
Input Bias Current vs. Temperature



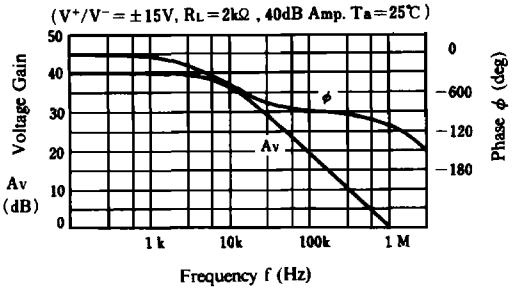
Maximum Output Voltage Swing vs. Supply Voltage



Voltage-follower Large-signal Pulse Response



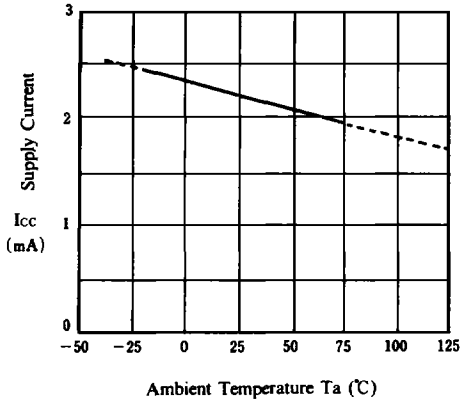
Voltage Gain, Phase vs. Frequency



■ Typical Characteristics

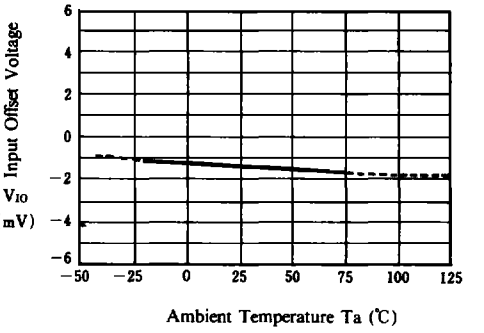
Supply Current vs. Temperature

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



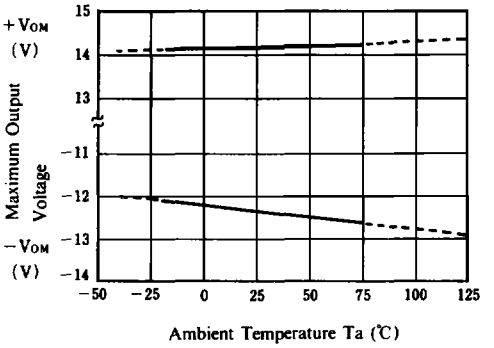
Input Offset Voltage vs. Temperature

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



Maximum Output Voltage vs. Temperature

($V^+/V^-=\pm15V$, $R_L=10k\Omega$)



■ Offset Adiustment