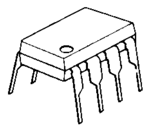
SINGLE GENERAL PURPOSE OPERATIONAL AMPLIFIER

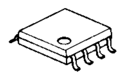
■ GENERAL DESCRIPTION

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.

■ PACKAGE OUTLINE



NJM741D

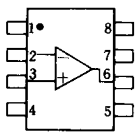


NJM741M

■ FEATURES

- Operating Voltage (±3V~±18V)
- Single Supply
- With V_{IO} Trim Terminal
- Package Outline DIP8,DMP8
- Bipolar Technology

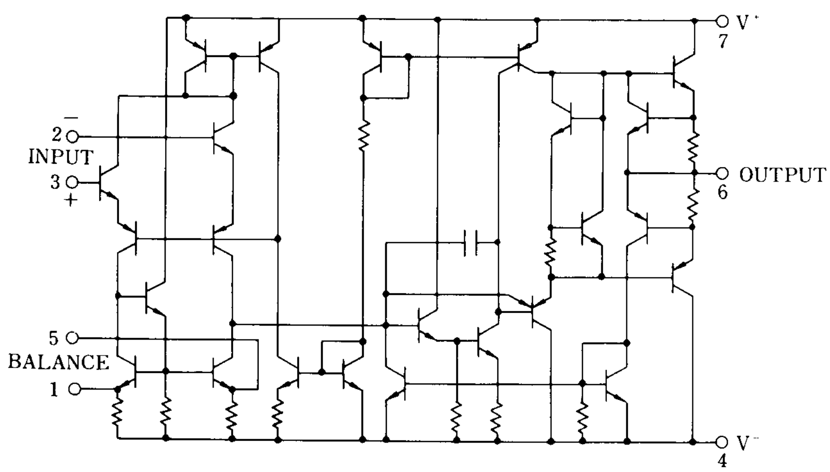
■ PIN CONFIGURATION



NJM741D
NJM741M

PIN FUNCTION
1.V_{OS} Trim
2.-INPUT
3.+INPUT
4.V^-
5.V_{OS} Trim
6.OUTPUT
7.V^+
8.NC

■ EQUIVALENT CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS

(Ta=25˚C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+/V^-	± 18	V
Input Voltage	V_{IC}	± 15 (note)	V
Differential Input Voltage	V_{ID}	± 30	V
Power Dissipation	P_D	(DIP8) 500 (DMP8) 300	mW
Operating Temperature Range	T_{opr}	-40~+85	˚C
Storage Temperature Range	T_{stg}	-40~+125	˚C

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

■ ELECTRICAL CHARACTERISTICS

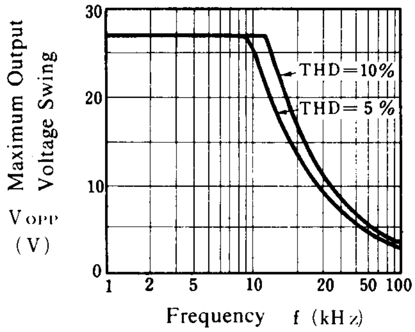
(Ta=+25˚C,V^+/V^-=±15V)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	R_S≦10kΩ	-	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≥2kΩ,V_O=±10V	86	110	-	dB
Maximum Output Voltage Swing 1	V_{OM1}	R_L≥10kΩ	± 12	± 14	-	V
Maximum Output Voltage Swing 2	V_{OM2}	R_L≥2kΩ	± 10	± 13	-	V
Input Common Mode Voltage Range	V_{ICM}		± 12	± 13	-	V
Common Mode Rejection Ratio	CMR	R_S≦10kΩ	70	100	-	dB
Supply Voltage Rejection Ratio	SVR	R_S≦10kΩ	76.5	100	-	dB
Operating Current	I_{CC}		-	1.7	2.8	mA
Slew Rate	SR	R_L≥2kΩ	-	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)	to	V_{IN}=20mV,R_L=2kΩ,C_L=100pF	-	5.0	-	%

■ TYPICAL CHARACTERISTICS

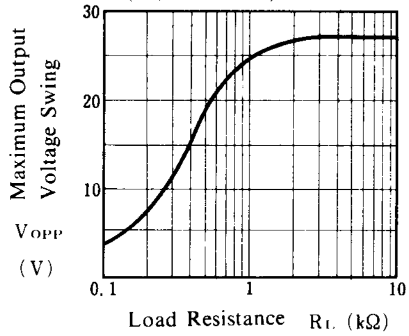
Maximum Output Voltage Swing vs. Frequency

($V^+/V^- = \pm 15V$, Ta=25℃)



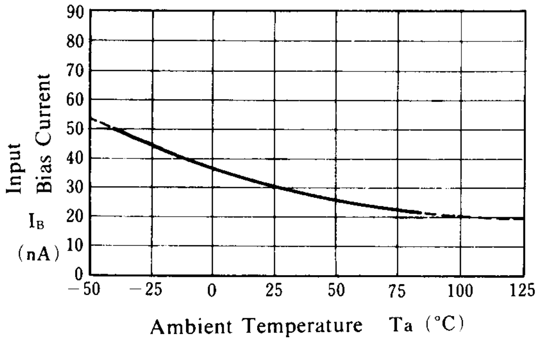
Maximum Output Voltage Swing vs. Load Resistance

($V^+/V^- = \pm 15V$, Ta=25℃)



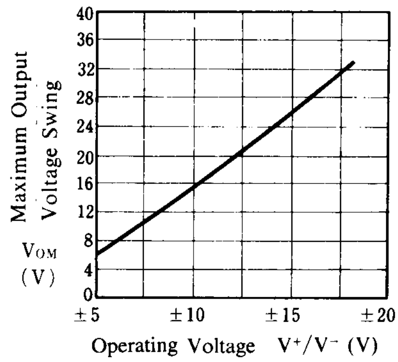
Input Bias Current vs. Temperature

($V^+/V^- = \pm 15V$)



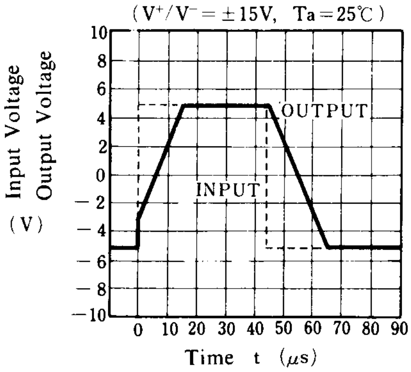
Maximum Output Voltage Swing vs. Operating Voltage

(Ta=25℃)



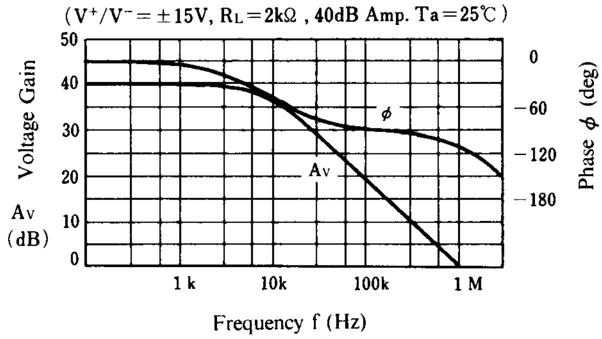
Voltage-follower Large-signal Pulse Response

($V^+/V^- = \pm 15V$, Ta=25℃)



Voltage Gain, Phase vs. Frequency

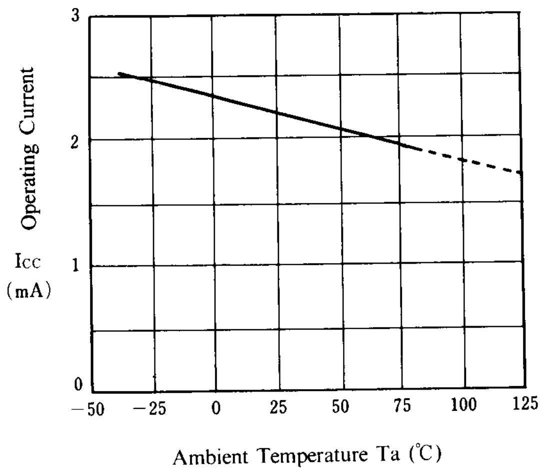
($V^+/V^- = \pm 15V$, R_L=2kΩ , 40dB Amp. Ta=25℃)



■ TYPICAL CHARACTERISTICS

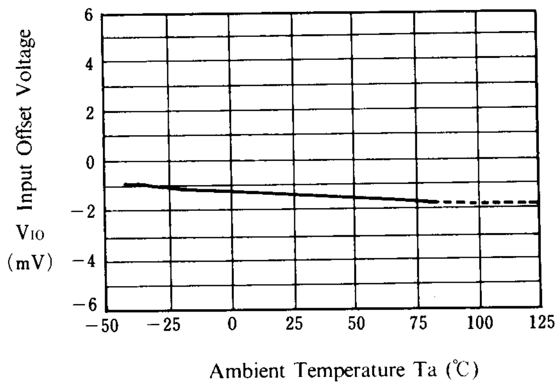
Operating Current vs. Temperature

(V+/V− = ±15V)



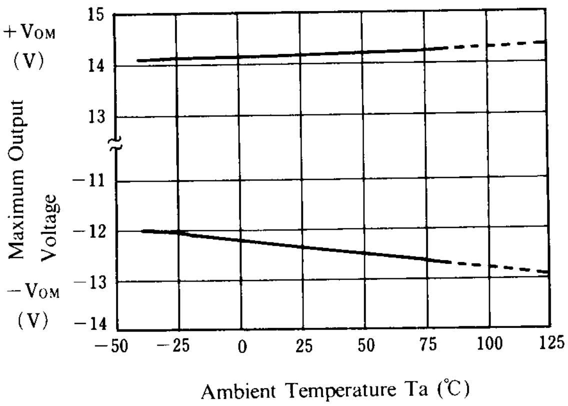
Input Offset Voltage vs. Temperature

(V+/V− = ±15V)



Maximum Output Voltage vs. Temperature

(V+/V− = ±15V, RL = 10kΩ)



■ OFFSET ADJUSTMENT CIRCUIT