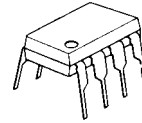


SINGLE GENERAL PURPOSE OPERATIONAL AMPLIFIER

■ 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

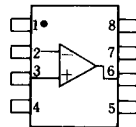


NJM741M

■ FEATURES

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

■ PIN CONFIGURATION

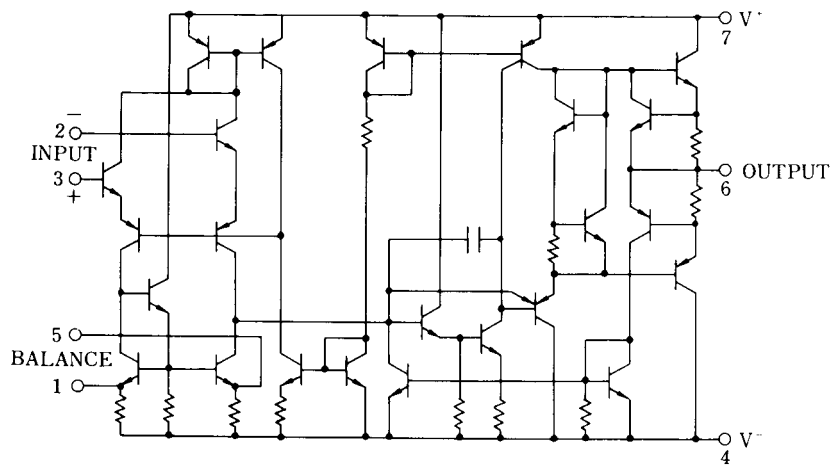


NJM741D
NJM741M

PIN FUNCTION

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

■ EQUIVALENT CIRCUIT



NJM741

■ 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 $\pm 15V$, the absolute maximum input voltage is equal to the supply voltage.

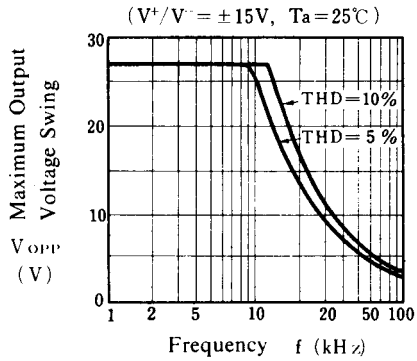
■ ELECTRICAL CHARACTERISTICS

(Ta=+25°C, $V^+V^- = \pm 15V$)

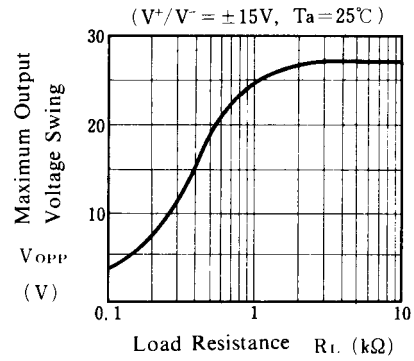
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_S \leq 10k\Omega$	-	2.0	6.0	mV
Input Offset Current	I_{IO}		-	5	200	nA
Input Bias Current	I_{IB}		-	30	500	nA
Input Resistance	R_{IN}		0.3	2.0	-	M Ω
Large-signal Voltage Gain	A_V	$R_L \geq 2k\Omega, V_O = \pm 10V$	86	110	-	dB
Maximum Output Voltage Swing 1	V_{OM1}	$R_L \geq 10k\Omega$	± 12	± 14	-	V
Maximum Output Voltage Swing 2	V_{OM2}	$R_L \geq 2k\Omega$	± 10	± 13	-	V
Input Common Mode Voltage Range	V_{ICM}		± 12	± 13	-	V
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	70	100	-	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	76.5	100	-	dB
Operating 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	$V_{IN} = 20mV, R_L = 2k\Omega, C_L = 100pF$	-	0.3	-	μs
Transient Response (Unity Gain)(Overshoot)	t_O	$V_{IN} = 20mV, R_L = 2k\Omega, C_L = 100pF$	-	5.0	-	%

■ TYPICAL CHARACTERISTICS

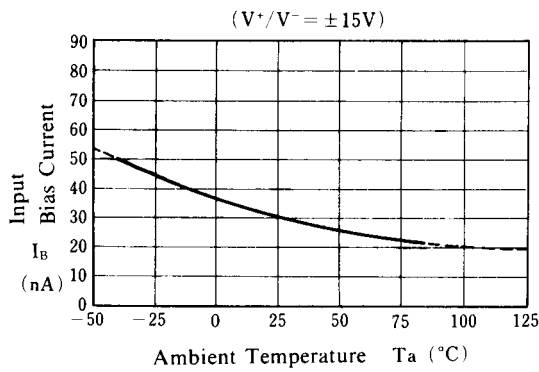
Maximum Output Voltage Swing vs. Frequency



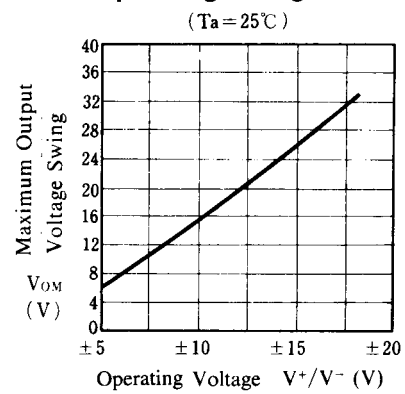
Maximum Output Voltage Swing vs. Load Resistance



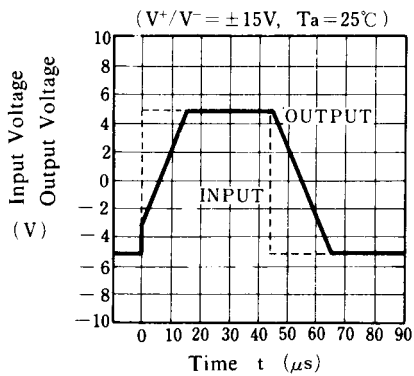
Input Bias Current vs. Temperature



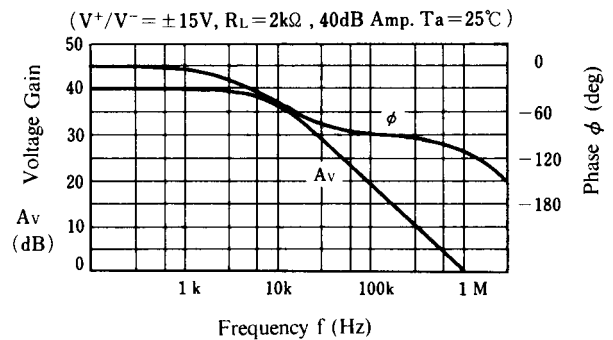
Maximum Output Voltage Swing vs. Operating Voltage



Voltage-follower Large-signal Pulse Response



Voltage Gain, Phase vs. Frequency

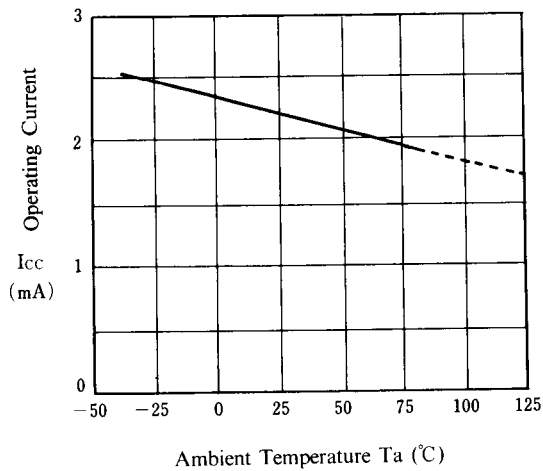


NJM741

■ TYPICAL CHARACTERISTICS

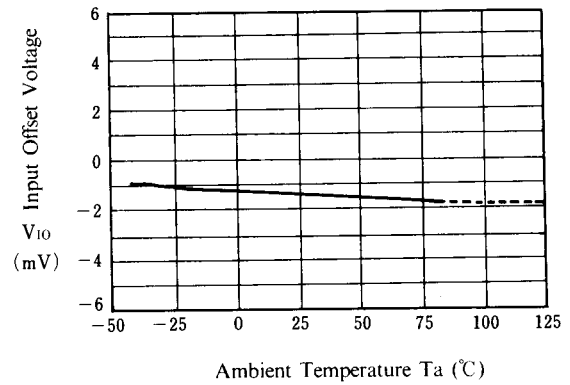
Operating Current vs. Temperature

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



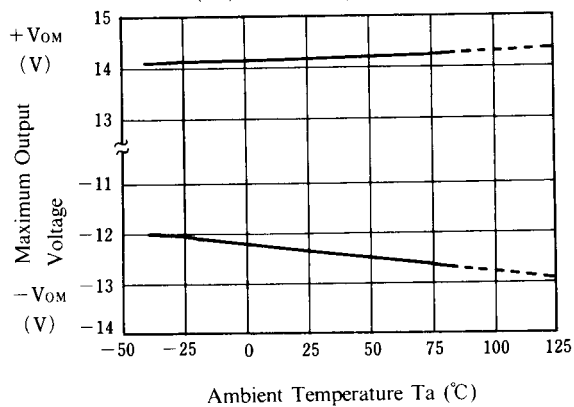
Input Offset Voltage vs. Temperature

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

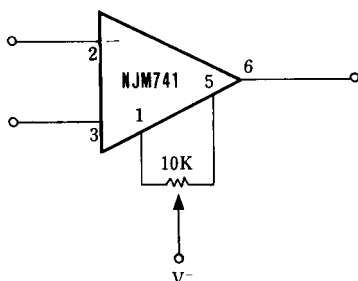


Maximum Output Voltage vs. Temperature

($V^+/V^- = \pm 15\text{ V}$, $R_L = 10\text{ k}\Omega$)



■ OFFSET ADJUSTMENT CIRCUIT



[CAUTION]

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