

NJM741

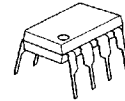
The NJM741 is a high performance Monolithic Operational Amplifier constructed using the New JRC Planar epitaxial process. It is intended for a wide range of analog applications. High common mode voltage range and absence of latch-up tendencies make the NJM741 ideal for use as a voltage follower. The 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^-	$\pm 18V$
Input Voltage (note)	V_I	$\pm 15V$
Differential Input Voltage	V_{ID}	$\pm 30V$
Power Dissipation	P_D (D-Type)	500mW
	(M-Type)	300mW
	(V-Type)	250mW
Operating Temperature Range	T_{opr}	$-20 \sim +75^\circ C$
Storage Temperature Range	T_{stg}	$-40 \sim +125^\circ C$

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

Package Outline



NJM741D



NJM741M



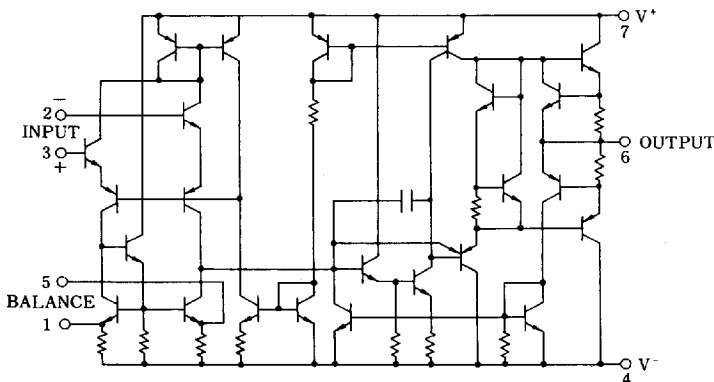
NJM741V

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 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	$V_{IN} = 20mV, R_L = 2k\Omega, C_L = 100pF$	—	0.3	—	μs
Transient Response (Unity Gain) (Overshoot)	t_o	$V_{IN} = 20mV, R_L = 2k\Omega, C_L = 100pF$	—	5.0	—	%

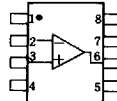
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Equivalent Circuit



Connection Diagram

D,M,V-Type
(Top View)



PIN FUNCTION

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

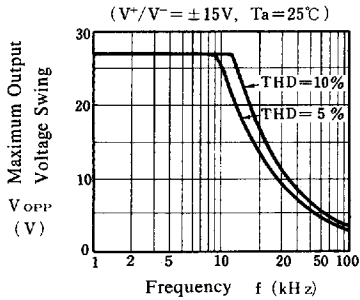
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New Japan Radio Co., Ltd.

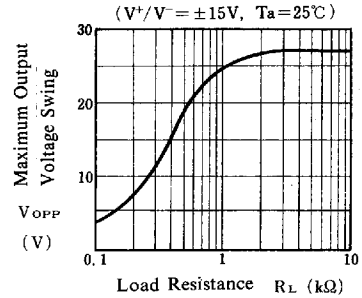
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■ Typical Characteristics

Maximum Output Voltage Swing vs. Frequency

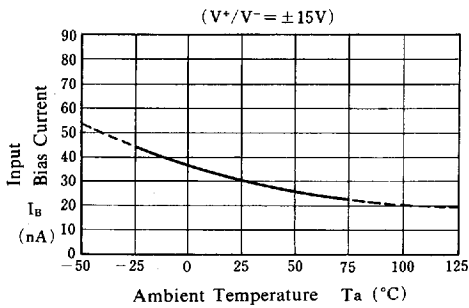


Maximum Output Voltage Swing vs. Load Resistance

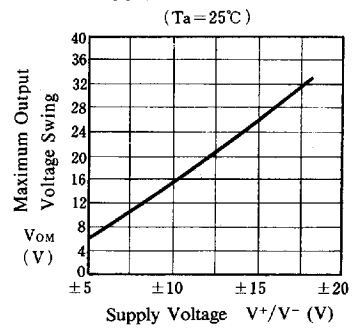


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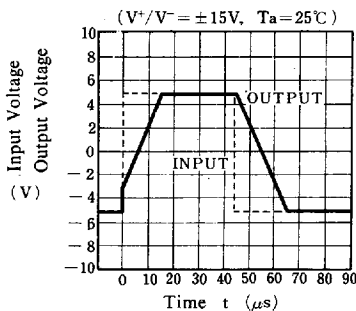
Input Bias Current vs. Temperature



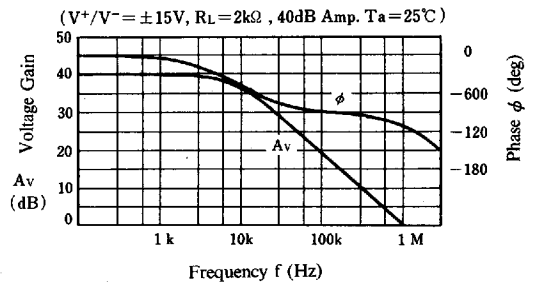
Maximum Output Voltage Swing vs. Supply Voltage



Voltage-follower Large-signal Pulse Response



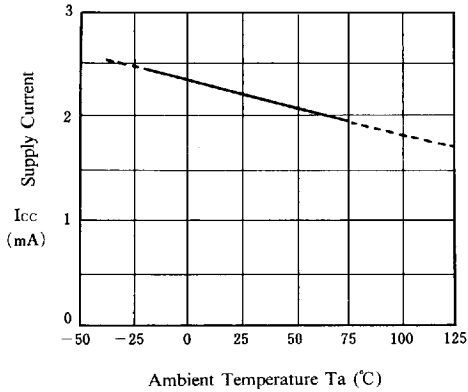
Voltage Gain, Phase vs. Frequency



■ Typical Characteristics

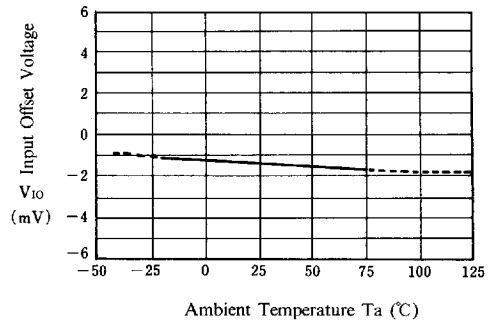
Supply Current vs. Temperature

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



Input Offset Voltage vs. Temperature

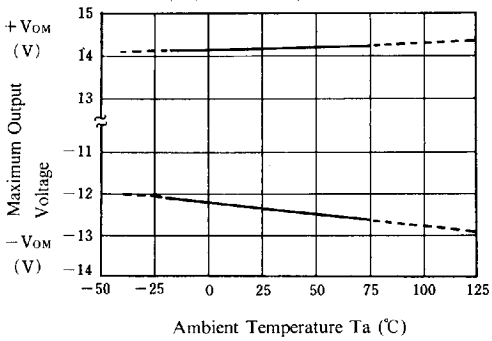
($V^+/V^- = \pm 15\text{ V}$)



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Maximum Output Voltage vs. Temperature

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



■ Offset Adjustment

