Designated client product

This product will be discontinued its production in the near term.
And it is provided for customers currently in use only, with a time limit.
It can not be available for your new project. Please select other new or existing products.
For more information, please contact our sales office in your region.

New Japan Radio Co.,Ltd.

www.njr.com

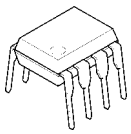
DUAL GENERAL PURPOSE OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM1458 is a monolithic pair of Internally Compensated High Performance Amplifiers, constructed using the New JRC Planar epitaxial process. They are intended for a wide range of analog applications where board space or weight is important. High common mode voltage range and absence of "latch-up" make the NJM1458 ideal for use as voltage followers. The high gain and wide range of operating voltage provides superior performance in integrator, summing amplifier and general feedback applications.

The NJM1458 is short-circuit protected and require no external components for frequency compensation. The internal 6 dB/octave roll-off insures stability in closed loop applications. For single amplifier performance, see the NJM741 data sheet.

■ PACKAGE OUTLINE



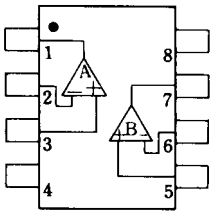
NJM1458D

NJM1458M

■ FEATURES

- Operating Voltage (+3V~+18V)
- Output Short-Circuit Protection
- Package Outline DIP8,DMP8
- Bipolar Technology

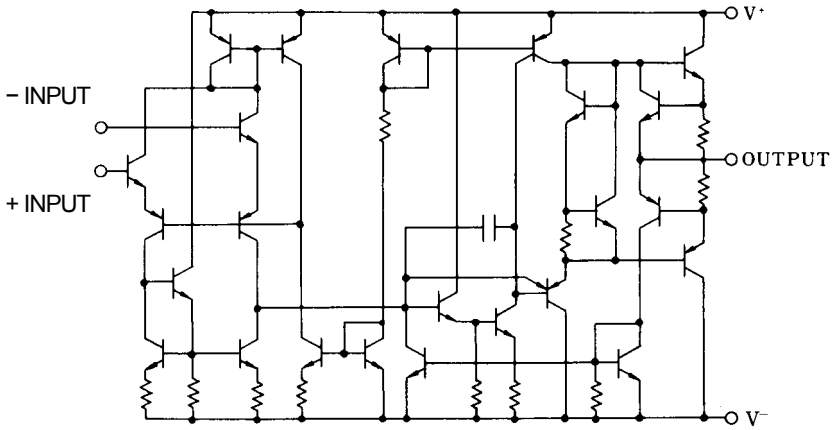
■ PIN CONFIGURATION



NJM1458D
NJM1458M

PIN FUNCTION
1.A OUTPUT
2.A –INPUT
3.A +INPUT
4.V^-
5.B +INPUT
6.B –INPUT
7.B OUTPUT
8.V^+

■ 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

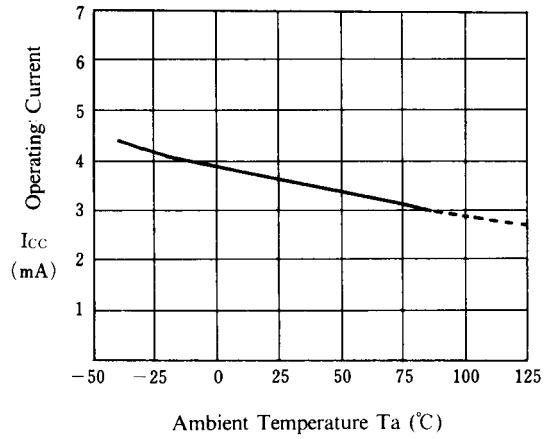
(Ta=25°C,V^+/V^-=±15V)

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_B		-	30	500	nA
Input Resistance	R_{IN}		0.3	1.0	-	MΩ
Large signal Voltage Gain	A_V	R_L≥2kΩ,V_O=±10V	86	106	-	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	90	-	dB
Supply Voltage Rejection Ratio	SVR	R_S≦10kΩ	76.5	90	-	dB
Operating Current	I_{CC}		-	3.3	5.7	mA
Slew Rate	SR	R_L≥2kΩ,A_V=1	-	0.5	-	V/μs
Channel Separation	CS	f=1kHz	-	98	-	dB

■ TYPICAL CHARACTERISTICS

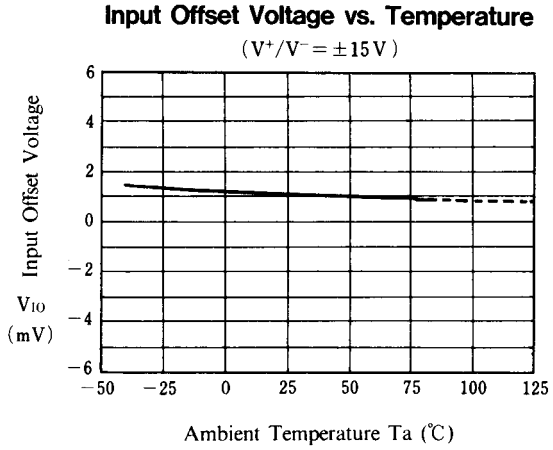
Operating Current vs. Temperature

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



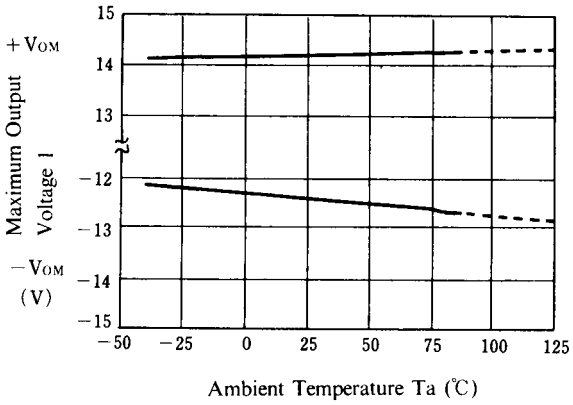
Input Offset Voltage vs. Temperature

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



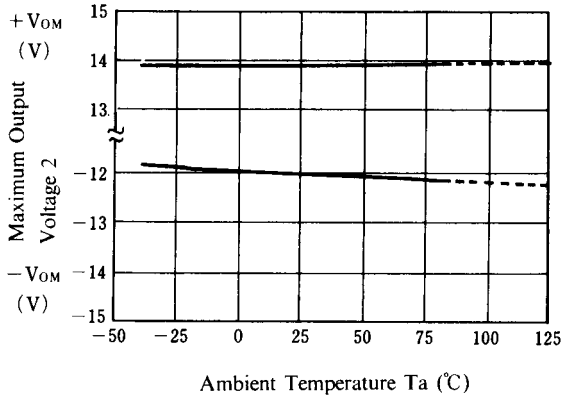
Maximum Output Voltage 1 vs. Temperature

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



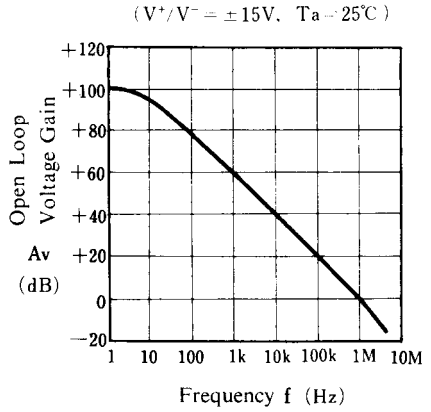
Maximum Output Voltage 2 vs. Temperature

($V^+/V^-=\pm15V$, $R_L=2k\Omega$)

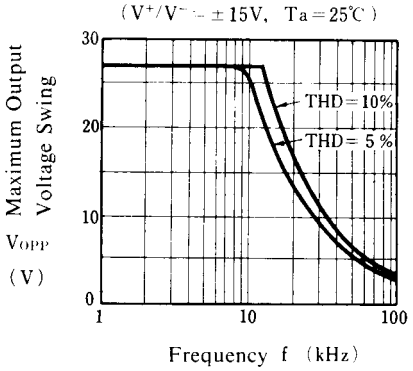


■ TYPICAL CHARACTERISTICS

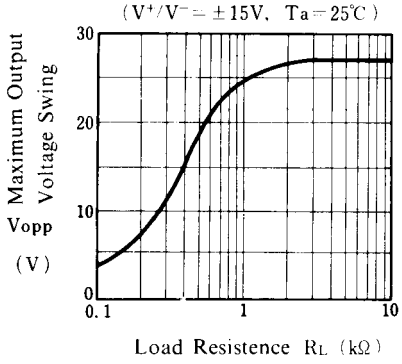
Open Loop Frequency Response



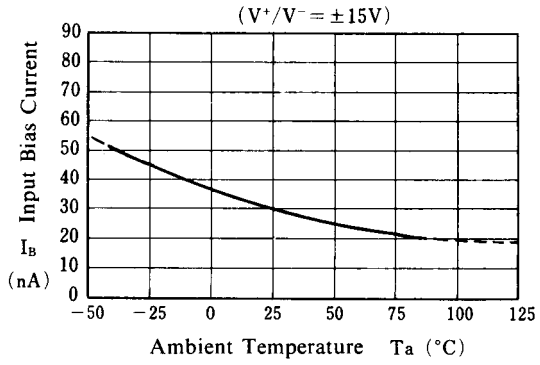
Maximum Output Voltage Swing vs. Frequency



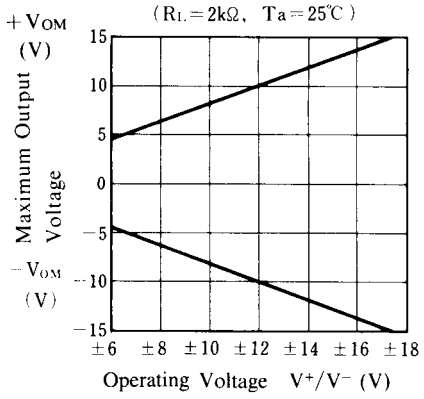
Maximum Output Voltage Swing vs. Load Resistance



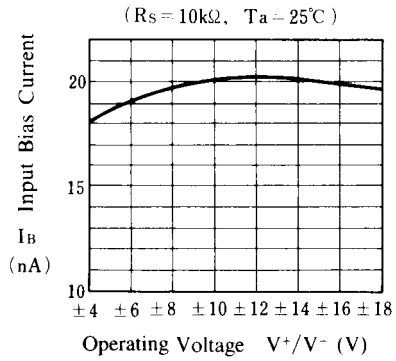
Input Bias Current vs. Temperature



Maximum Output Voltage Swing vs. Operating Voltage



Input Bias Current vs. Operating Voltage



[CAUTION]
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