

QUAD OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

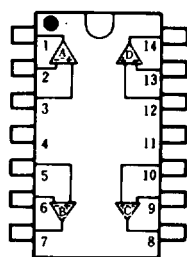
The NJM2058 integrated circuit is a quad high-gain operational amplifier internally compensated and constructed on a single silicon chip using an advanced epitaxial process.

Each amplifier of the NJM2058 has the same electrical characteristics of the NJM4558.

■ FEATURES

- Operating Voltage $(\pm 4V \sim \pm 18V)$
- Package Outline DIP14, DMP14, SSOP14
- Bipolar Technology

■ PIN CONFIGURATION

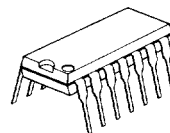


NJM2058D
NJM2058M
NJM2058V

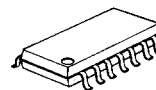
PIN FUNCTION

1. A OUTPUT
2. A -INPUT
3. A +INPUT
4. V^+
5. B +INPUT
6. B -INPUT
7. B OUTPUT
8. C OUTPUT
9. C -INPUT
10. C +INPUT
11. V^-
12. D +INPUT
13. D -INPUT
14. D OUTPUT

■ PACKAGE OUTLINE



NJM2058D



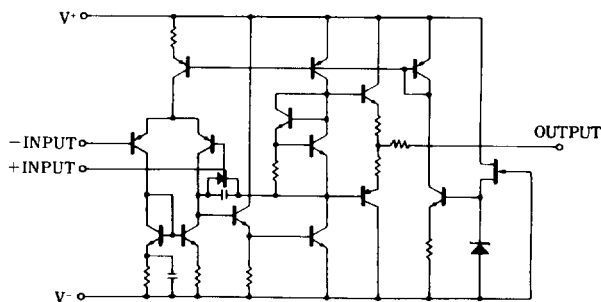
NJM2058M



NJM2058V

4

■ EQUIVALENT CIRCUIT (1/4 Shown)





■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ /V ⁻	±18	V
Differential Input Voltage	V _{ID}	±30	V
Input Voltage	V _I	±15 (note 1)	V
Power Dissipation	P _D	(DIP14) 700	mW
		(DIM14) 700 (note 2)	mW
		(SSOP14) 300	mW
Operating Temperature Range	T _{opr}	-20~+75	°C
Storage Temperature Range	T _{stg}	-40~+125	°C

(note 1) For supply voltage less than ±15V, the absolute maximum input voltage is equal to the supply voltage.

(note 2) At on PC board

■ ELECTRICAL CHARACTERISTICS

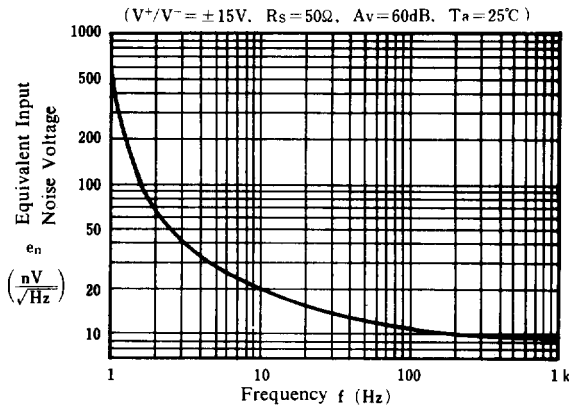
(Ta=25°C, V⁺/V⁻=±15V)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	R _S ≤10kΩ	—	0.5	6	mV
Input Offset Current	I _{IO}		—	5	200	nA
Input Bias Current	I _B		—	20	500	nA
Input Resistance	R _{IN}		0.3	1	—	MΩ
Large-signal Voltage Gain	A _V	R _L ≥2kΩ, V _O =±10V	86	100	—	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	±14	—	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}		—	7	11.3	mA
Slew Rate	SR		—	1	—	V/μs
Equivalent Input Noise Voltage	V _{NI}	R _{IAA} , R _S =2.2kΩ, 30kHz LPF	—	1.4	—	μVrms

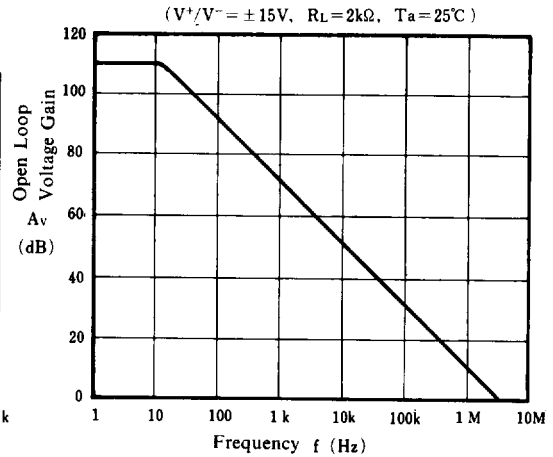


■ TYPICAL CHARACTERISTICS

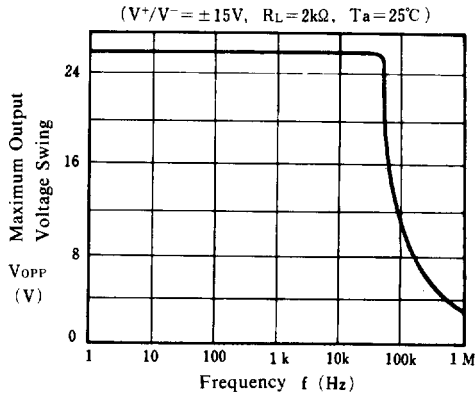
**Equivalent Input Noise Voltage
vs. Frequency**



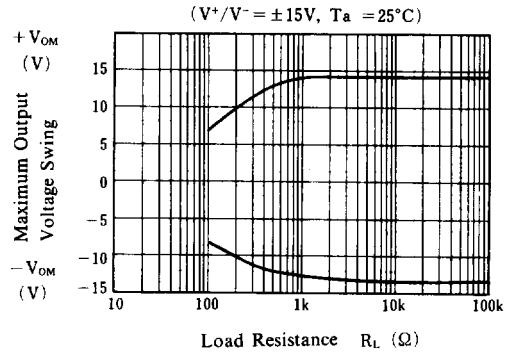
**Open Loop Voltage Gain
vs. Frequency**



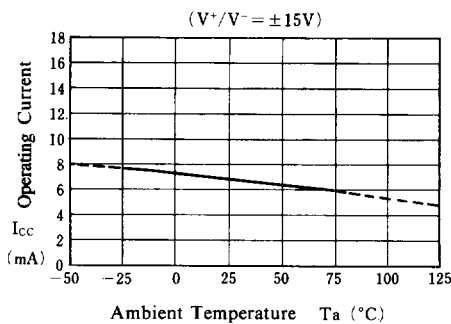
**Maximum Output Voltage Swing
vs. Frequency**



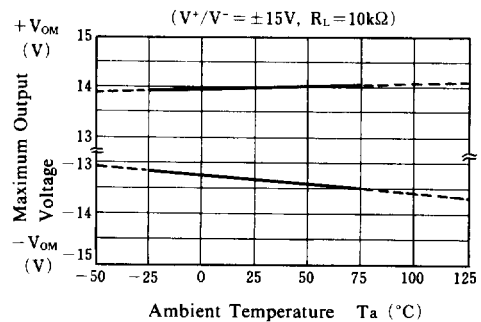
**Maximum Output Voltage Swing
vs. Load Resistance**



Operating Current vs. Temperature

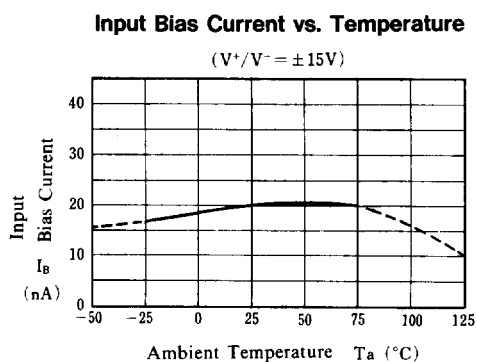
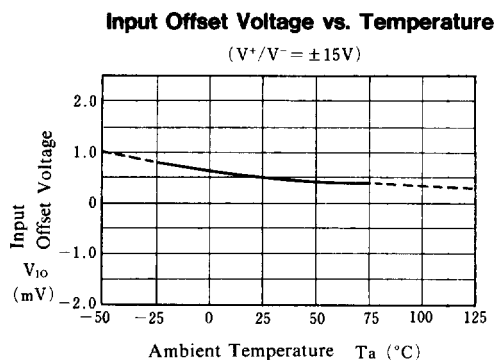


**Maximum Output Voltage Swing
vs. Temperature**

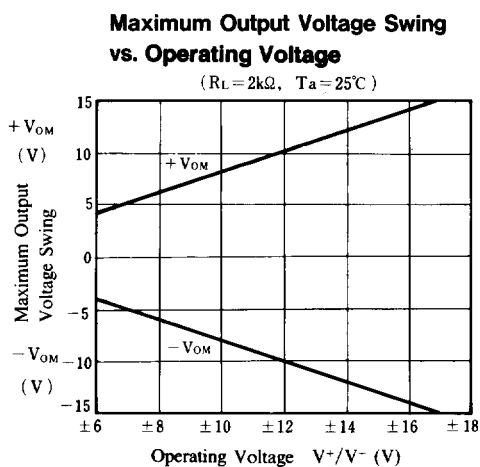
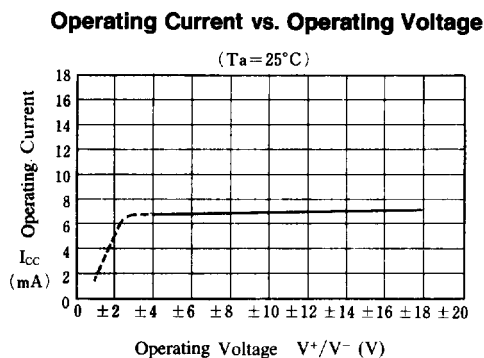




TYPICAL CHARACTERISTICS



4



■ TYPICAL CHARACTERISTICS

