

DUAL SINGLE-SUPPLY OPERATIONAL AMPLIFIER

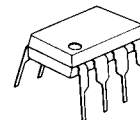
■ GENERAL DESCRIPTION

NJM2119 is an ultra-low input offset voltage and bias current, low drift and single supply dual operational amplifier. NJM2119 is suitable for a high accurate instrumental amplifier and sensor amplifier.

■ FEATURES

- Single Supply
- Operating Voltage (+4V~+36V)
- Low Input Offset Voltage (90 μ V typ.)
- Low Input Bias Current (18nA typ.)
- Low Input Offset Voltage Drift (4.0 μ V/ $^{\circ}$ C typ.)
- Package Outline DIP8,DMP8
- Bipolar Technology

■ PACKAGE OUTLINE

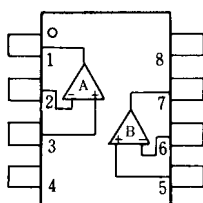


NJM2119D



NJM2119M

■ PIN CONFIGURATION



NJM2119D
NJM2119M

PIN FUNCTION

- 1.A OUTPUT
- 2.A -INPUT
- 3.A +INPUT
- 4.V⁻
- 5.B +INPUT
- 6.B -INPUT
- 7.B OUTPUT
- 8.V⁺

NJM2119

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+ (V^+V^-)	36 (± 18)	V
Input Voltage	V_{IC}	-0.3~+36	V
Differential Input Voltage	V_{ID}	± 36 (note)	V
Power Dissipation	P_D	(DIP8) 700 (DMP8) 300	mW
Operating Temperature Range	T_{opr}	-40~+85	°C
Storage Temperature Range	T_{stg}	-40~+125	°C

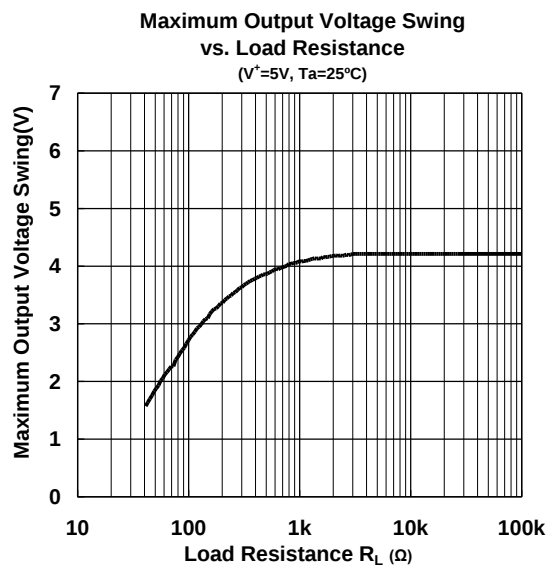
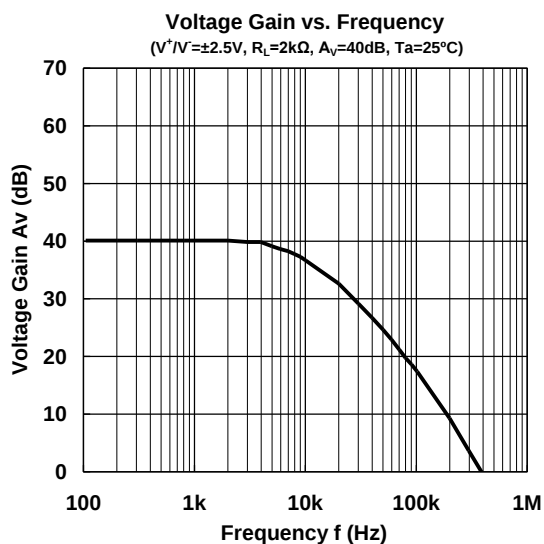
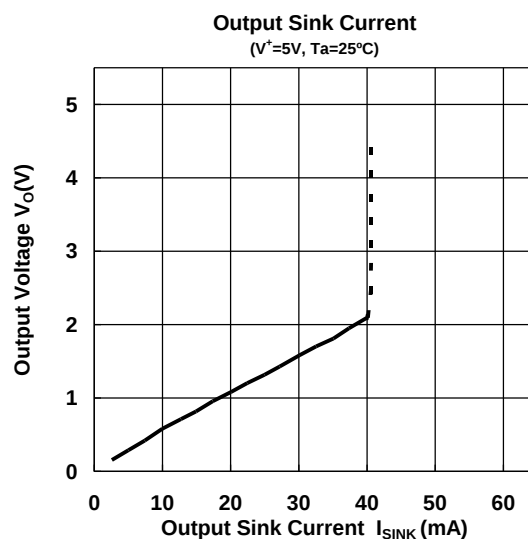
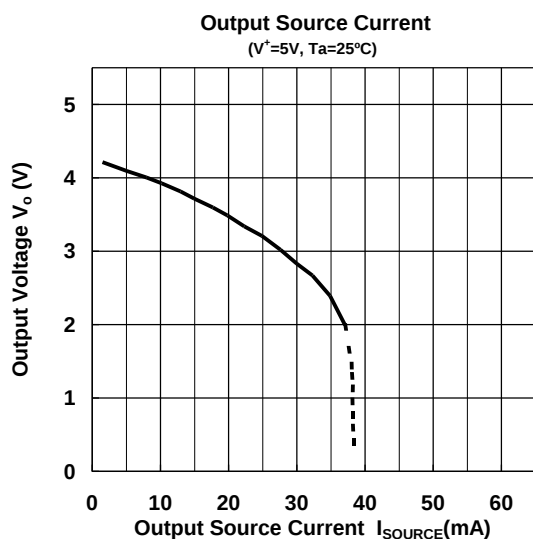
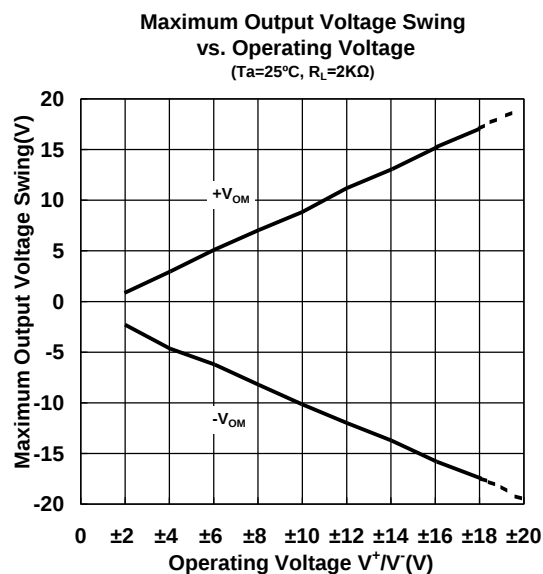
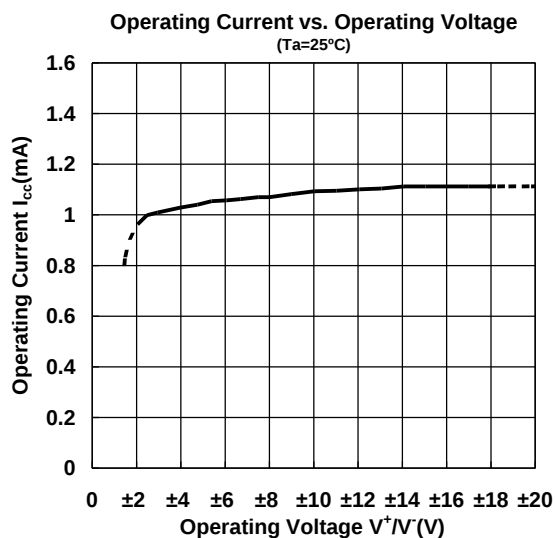
(note) For supply voltage less than ±18V, the absolute maximum input voltage is equal to the supply voltage.

■ ELECTRICAL CHARACTERISTICS

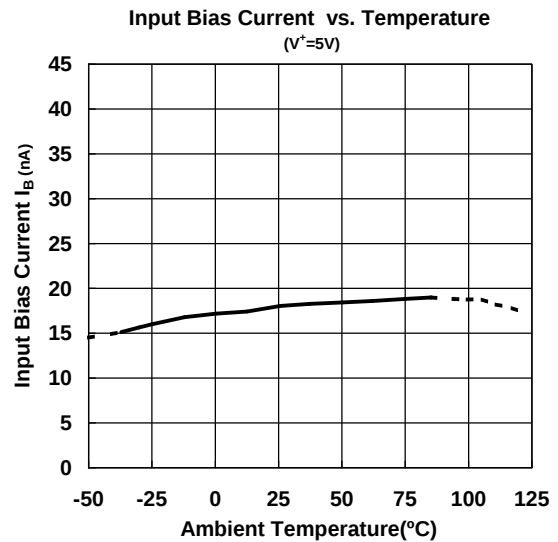
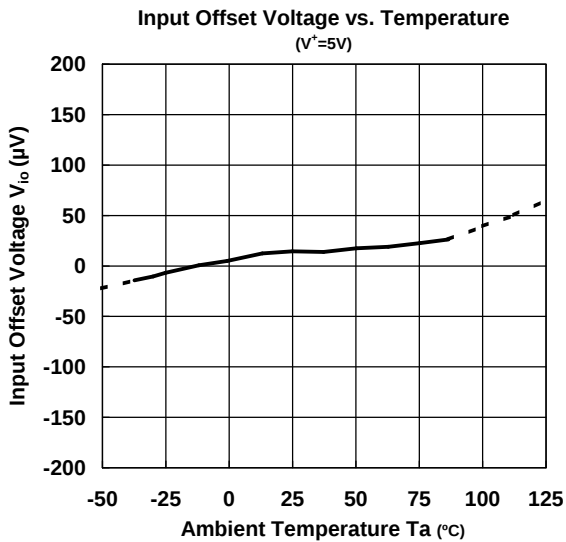
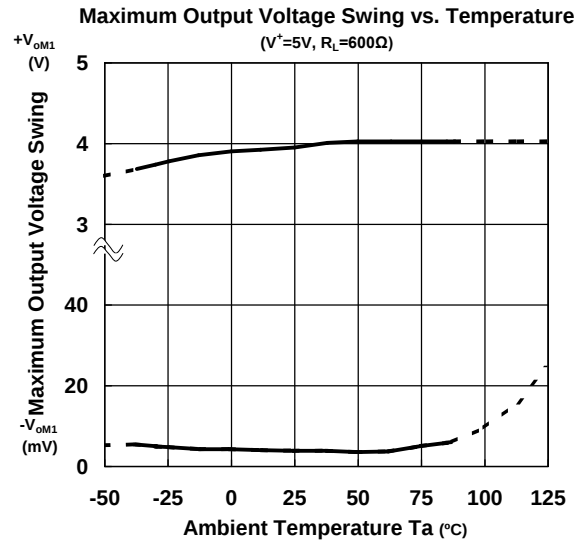
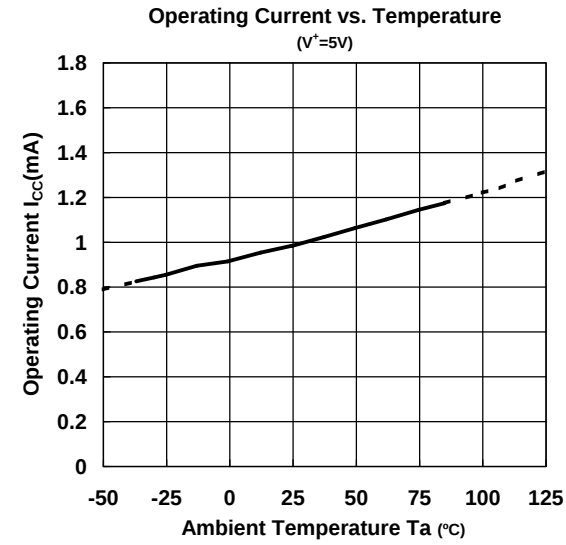
($V^+=5.0V, T_a=25\pm2^\circ C$)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_S \leq 50\Omega$	-	90	450	μV
V_{IO} Drift	$\Delta V_{IO}/\Delta T$	$T_a = -30 \sim +85^\circ C$	-	4.0	-	$\mu V/^\circ C$
Input Offset Current	I_{IO}		-	0.3	7.0	nA
Input Bias Current	I_B		-	18	50	nA
Operating Current	I_{CC}	$R_L = \infty$	-	1.0	1.5	mA
Input Common Mode Voltage Range	V_{ICM}		0~3.5	-	-	V
Common Mode Rejection Ratio	CMR		85	100	-	dB
Supply Voltage Rejection Ratio	SVR		85	100	-	dB
Large Signal Voltage Gain	A_V	$R_L = 600\Omega$	90	105	-	dB
Maximum Output Voltage Swing 1	$+V_{OM1}$	$R_L = 600\Omega$	3.4	4.0	-	V
Maximum Output Voltage Swing 1	$-V_{OM1}$	$R_L = 600\Omega$	-	5.0	10.0	mV
Maximum Output Voltage Swing 2	$-V_{OM2}$	$I_{SINK} = 1mA$	-	220	350	mV
Slew Rate	SR	$A_V = 1$	-	0.3	-	V/ μs
Gain Bandwidth Product	GB		-	1.0	-	MHz

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS



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