

LOW POWER SINGLE OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM2130 is a general-purpose low power single operational amplifier.

The features of low power, low operating voltage, and ultra mini package are most suitable for portable items.

The NJM2130 incorporates frequency compensation and short-circuit protection as same as NJM022 and the characteristics are also same as NJM022.

■ PACKAGE OUTLINE



NJM2130F

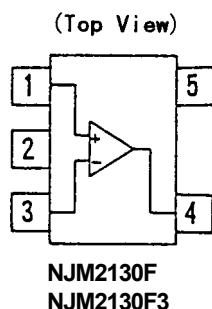


NJM2130F3

■ FEATURES

- Operating Voltage ($\pm 2V \sim \pm 18V$)
- Low Supply Current ($80\mu A$ typ.)
- Short-Circuit Protection ($\pm 6mA$ typ.)
- Mounted in Ultra Miniature Package $2.0 \times 1.25mm$
(1/8 of DMP8 package)
- Bipolar Technology
- Package Outline SOT-23-5, SC88A

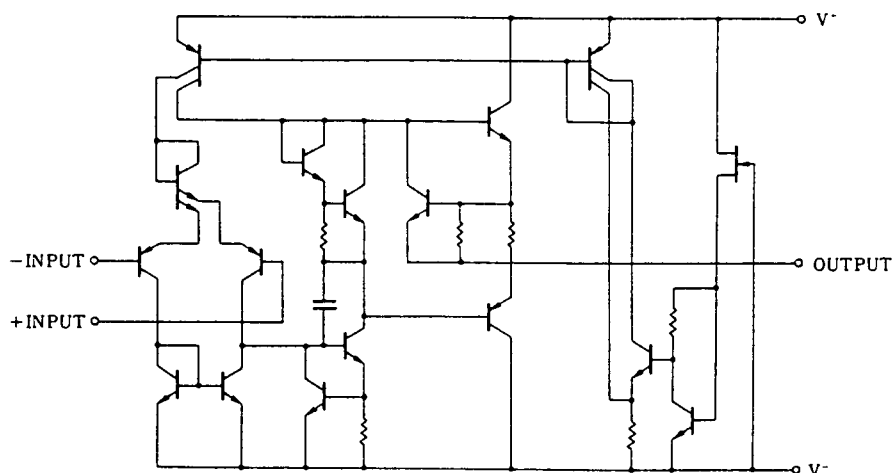
■ PIN CONFIGURATION



PIN FUNCTION

- 1.+INPUT
- 2.V⁻
- 3.-INPUT
- 4.OUTPUT
- 5.V⁺

■ EQUIVALENT CIRCUIT



NJM2130

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+ / V^-	± 18	V
Input Voltage	V_{IC}	± 15 (note1)	V
Differential Input Voltage	V_{ID}	± 30	V
Power Dissipation	P_D	(SOT-23-5) 200 (SC88A) 250 (note2)	mW
Operating Temperature Range	T_{opr}	-40~+85	°C
Storage Temperature Range	T_{stg}	-40~+125	°C

(note1) When the supply voltage is less than $\pm 15V$, the absolute maximum input voltage is equal to the supply voltage.

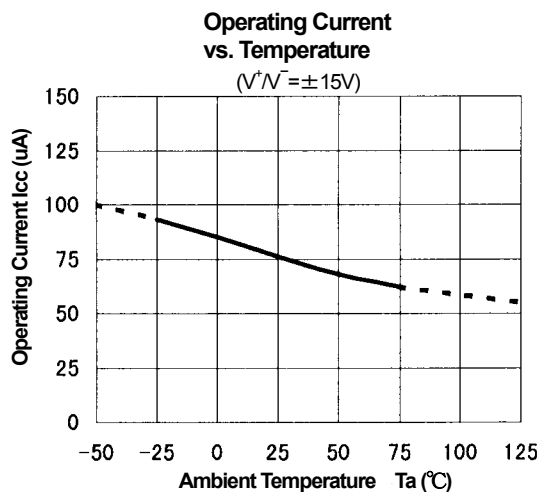
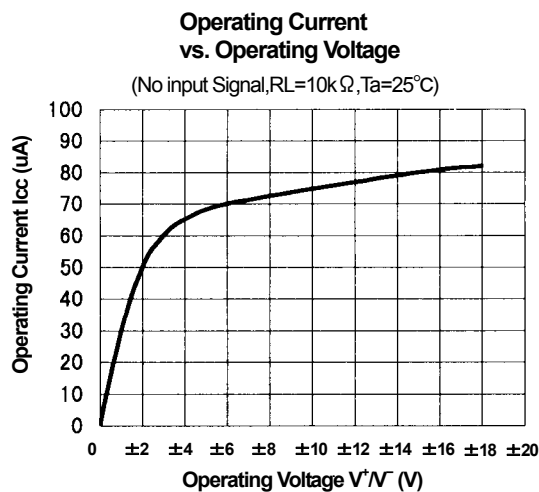
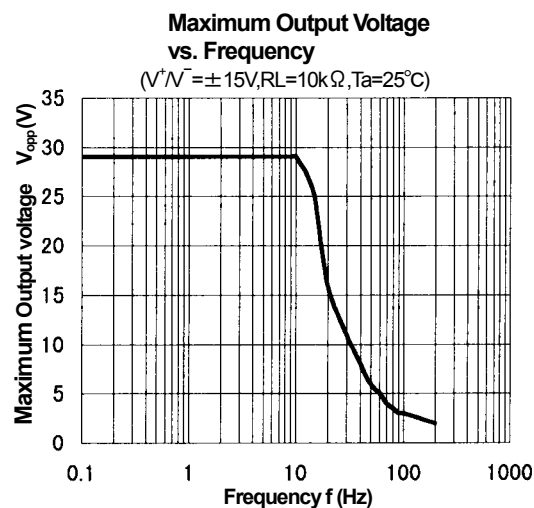
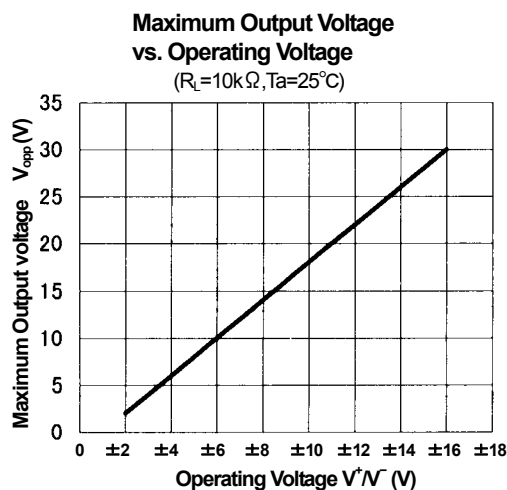
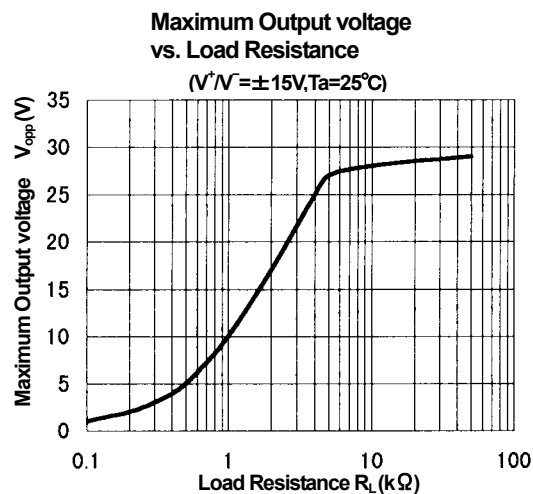
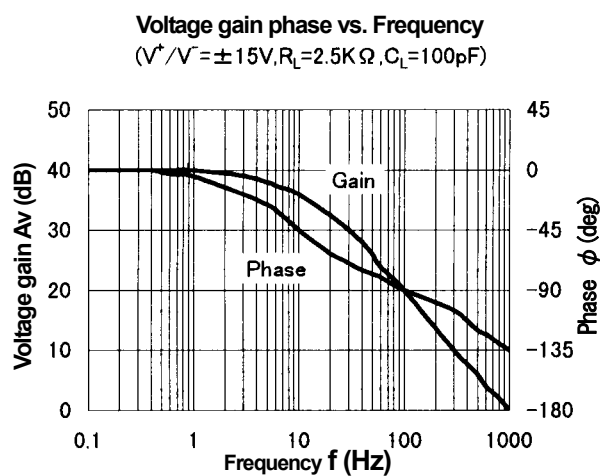
(note2) On EIA/JEDEC board. (76.2x114.3x1.6mm, 2layer, FR-4)

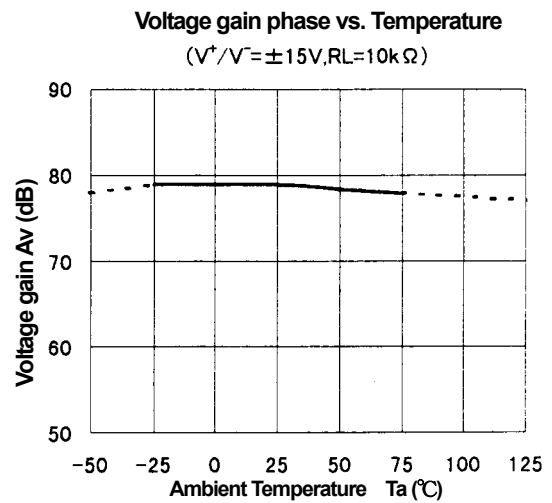
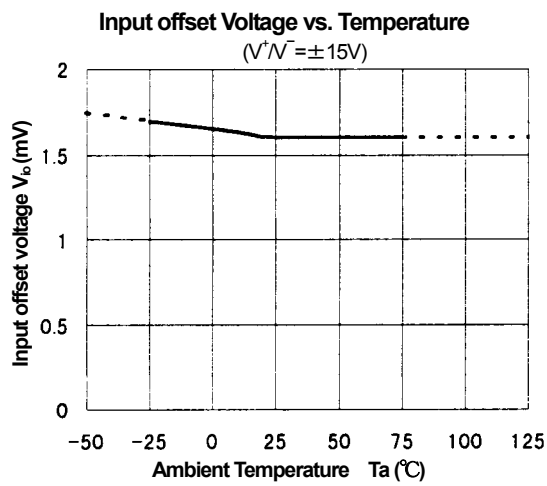
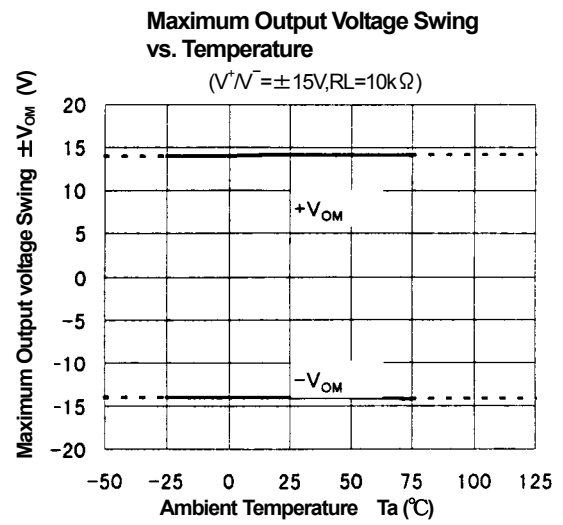
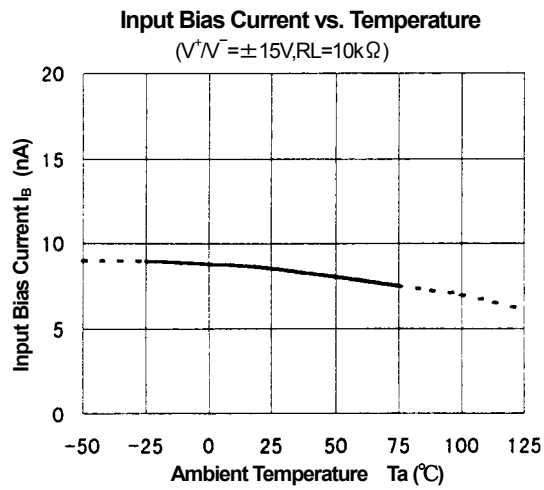
■ ELECTRICAL CHARACTERISTICS

($V^+ / V^- = \pm 15V$, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_S \leq 10k\Omega$	-	1	5	mV
Input Offset Current	I_{IO}		-	1	80	nA
Input Bias Current	I_B		-	15	250	nA
Large Signal Voltage Gain	A_V	$R_L \geq 10k\Omega, V_O = \pm 10V$	60	88	-	dB
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	60	90	-	dB
Response Time (Rise Time)	t_R	$V_{IN} = 20mV, R_L = 10k\Omega, C_L = 100pF$	-	0.3	-	μs
Slew Rate	SR	$V_{IN} = 10V, R_L = 10k\Omega, C_L = 100pF$	-	0.5	-	V/ μs
Input Common Mode Voltage Range	V_{ICM}		± 12	± 13	-	V
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	74	110	-	dB
Equivalent Input Noise Voltage	e_n	$A_V = 20dB, f = 1kHz$	-	50	-	nV/ $\sqrt{Hz}$
Short-circuit Output Current	I_{OS}		-	± 6	-	mA
Operating Current	I_{CC}		-	80	170	μA
Maximum Output Voltage Swing	V_{OM}	$R_L = 10k\Omega$	± 10	± 14	-	V

TYPICAL CHARACTERISTICS





[CAUTION]

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