

## 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.

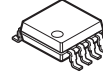
<http://www.njr.com/>

## DUAL OPERATIONAL AMPLIFIER

### ■ GENERAL DESCRIPTION

The NJM2141 is a dual operational amplifier with a low voltage operation of  $\pm 2V$  and high output current of 25mA in a small package. Further excellent features of a high slew rate of  $3V/\mu s$  (typ.), wide bandwidth of 8MHz (typ.), low noise and low distortion make the NJM2141 well-suited for audio, telecommunication and instrumentation applications. The 2141 is available in 8-lead MSOP package.

### ■ PACKAGE OUTLINE

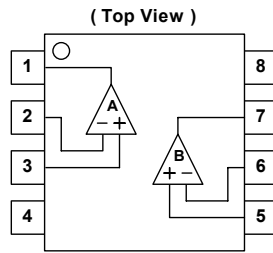


NJM2141R  
(MSOP8(VSP8))

### ■ FEATURES

- Operating Voltage       $\pm 2V \sim \pm 10V$
- Slew Rate                 $3V/\mu s$  typ
- Band width              8MHz typ.
- High Output Current     $I_o = 25mA$
- Bipolar Technology
- Package Outline        MSOP8 (VSP8) MEET JEDEC MO-187-DA

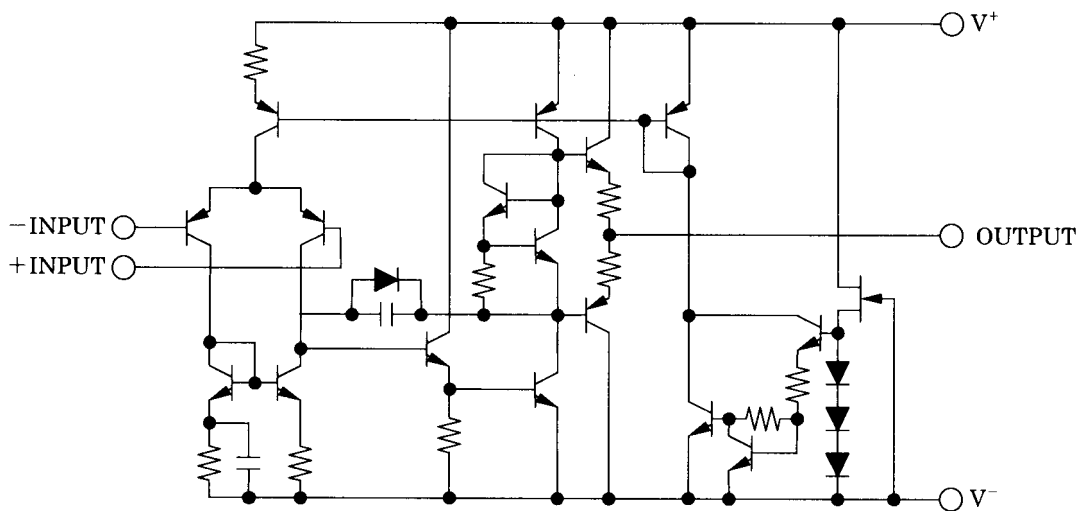
### ■ PIN CONFIGURATION



- PIN FUNCTION**
- 1.A OUTPUT
  - 2.A -INPUT
  - 3.A +INPUT
  - 4.V<sup>+</sup>
  - 5.B +INPUT
  - 6.B -INPUT
  - 7.B OUTPUT
  - 8.V<sup>+</sup>

NJM2141R

### ■ EQUIVALENT CIRCUIT ( 1/2 Shown )



# NJM2141

## ■ ABSOLUTE MAXIMUM RATINGS

( Ta=25°C )

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V^+ / V^-$	± 10	V
Differential Input Voltage	$V_{ID}$	± 15	V
Input Voltage	$V_{IC}$	± 7.5 ( note1 )	V
Power Dissipation	$P_D$	320	mW
Operating Temperature Range	$T_{opr}$	-20~+75	°C
Storage Temperature Range	$T_{stg}$	-40~+125	°C

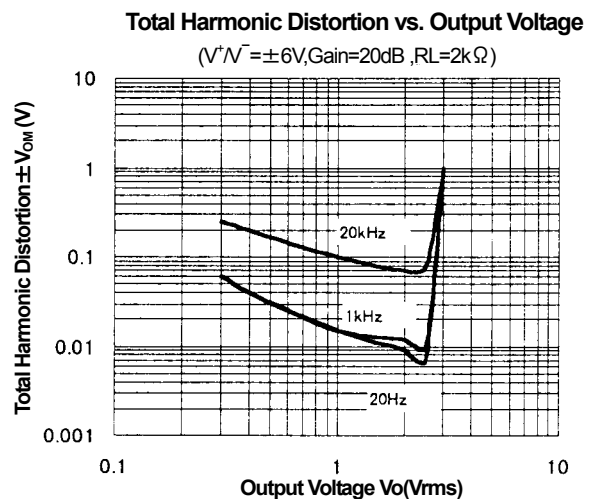
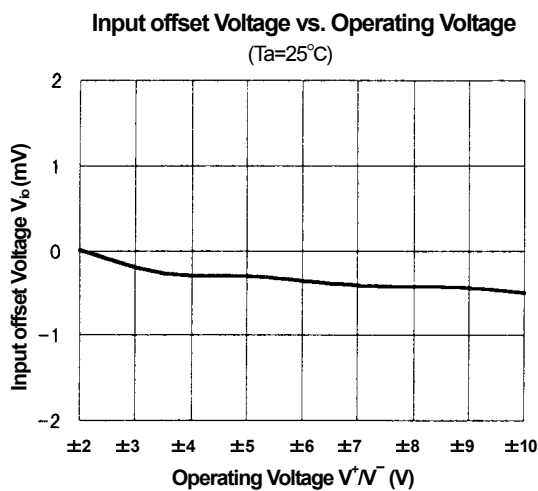
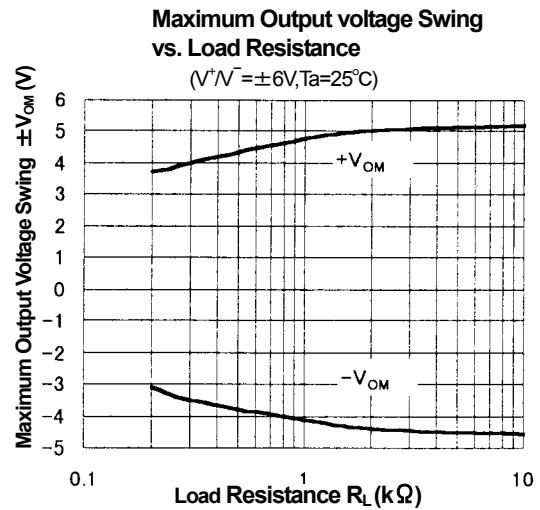
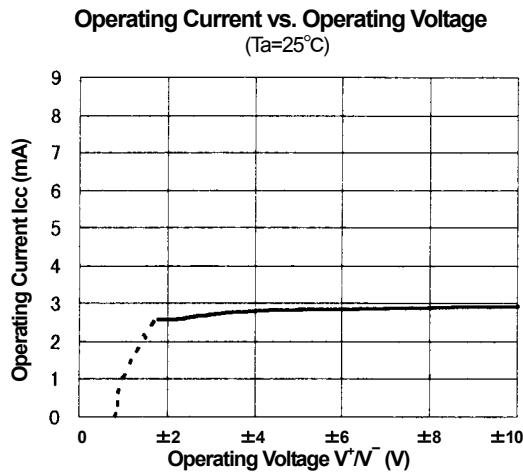
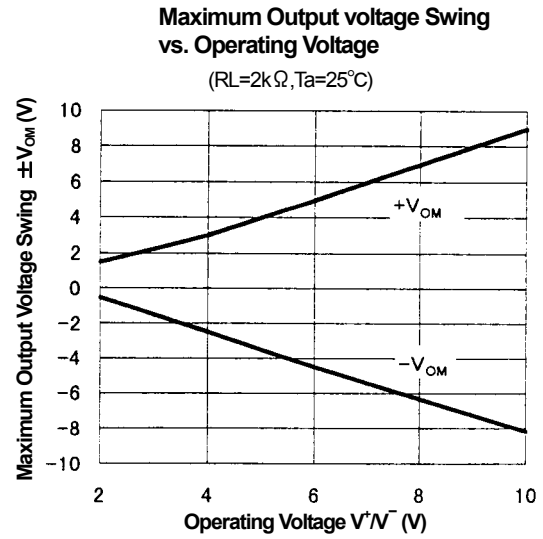
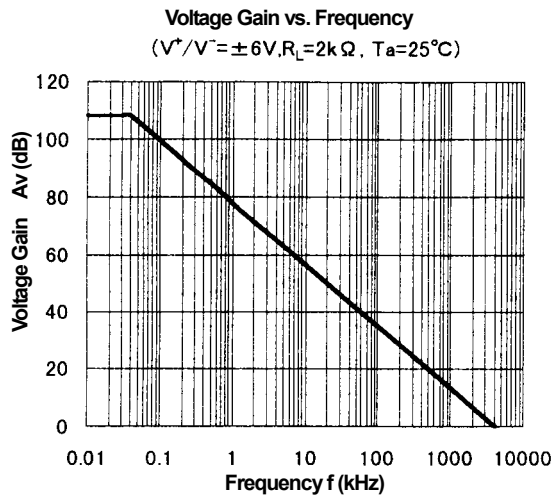
( note1 ) When input voltage is less than ±7.5V, the absolute maximum control voltage is equal to the input voltage.

## ■ ELECTRICAL CHARACTERISTICS

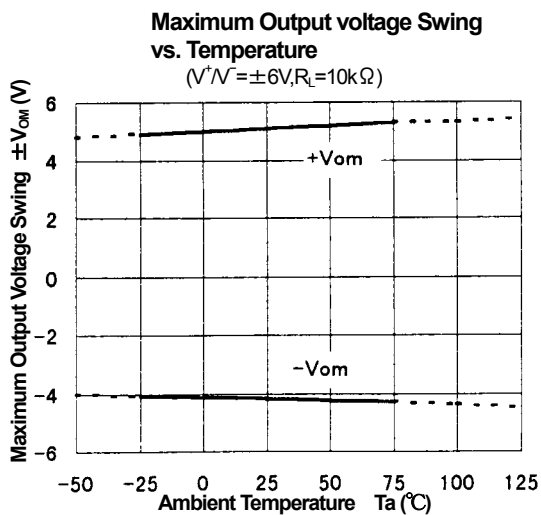
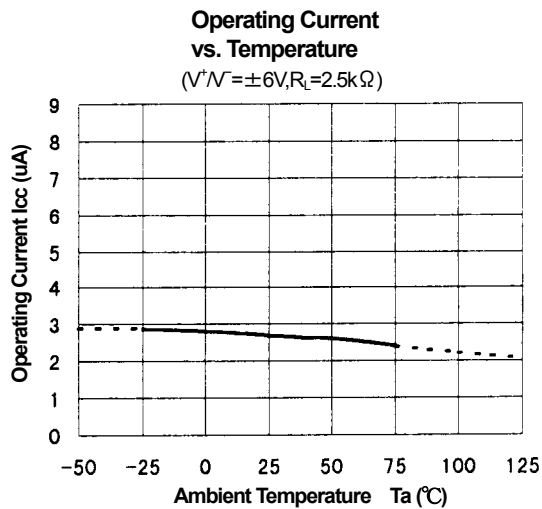
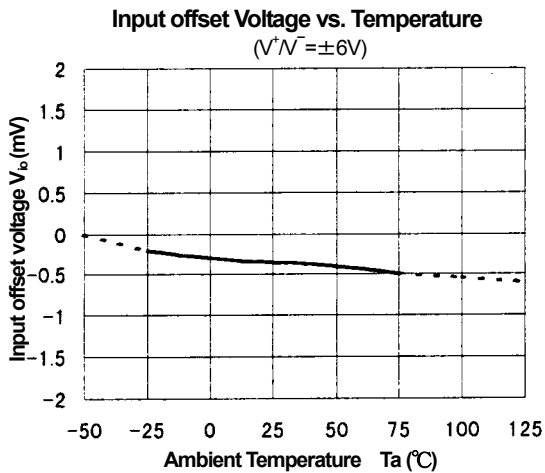
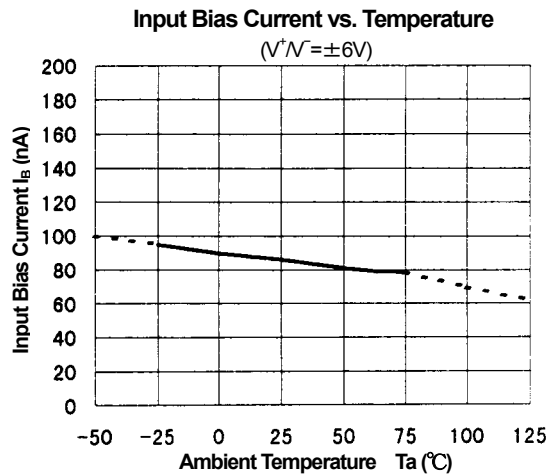
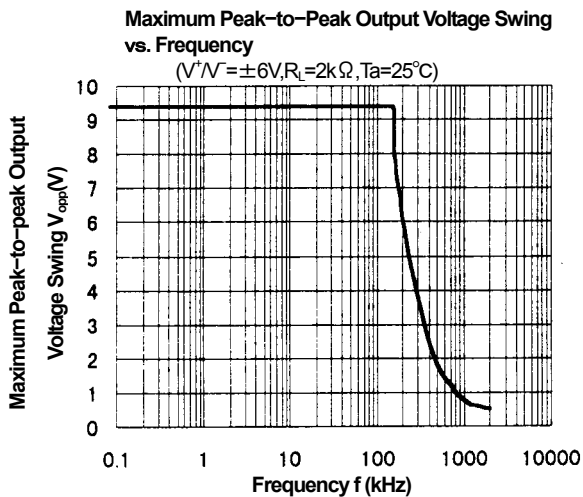
(  $V^+ / V^- = \pm 6V, Ta=25^\circ C$  )

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	$V_{IO}$	$R_S=0\Omega$	-	0.5	6	mV
Input Offset Current	$I_{IO}$		-	5	200	nA
Input Bias Current	$I_B$		-	80	500	nA
Input Resistance	$R_{IN}$		0.3	2.5	-	MΩ
Large Signal Voltage Gain	$A_V$	$R_L \geq 2k\Omega, V_O = \pm 4V$	86	100	-	dB
Maximum Output Voltage Swing 1	$V_{OM1}$	$R_L \geq 2k\Omega$	+4.0	+5.0	-	V
			-3.5	-4.5	-	
Maximum Output Voltage Swing 2	$V_{OM2}$	$V^+ / V^- = \pm 9V, I_O = 25mA$	+4.0	+6.0	-	V
			-4.0	-5.0	-	
Input Common Mode Voltage Range	$V_{ICM}$		± 4.0	± 4.5	-	V
Common Mode Rejection Ratio	CMR	$R_S \leq 10k\Omega$	70	90	-	dB
Supply Voltage Rejection Ratio	SVR	$R_S \leq 10k\Omega$	76.5	90	-	dB
Operating Current	$I_{CC}$		-	2.7	5.7	mA
Slew Rate	SR		-	3	-	V/μs
Gain Bandwidth Product	GB		-	8	-	MHz
Equivalent Input Noise Voltage	$V_{NI}$	RIAA, $R_S=2k\Omega, 39kHz$ LPF	-	1.2	-	μVrms

## ■ TYPICAL CHARACTERISTICS



## ■ TYPICAL CHARACTERISTICS



**[CAUTION]**

The specifications on this databook are only given for information, without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.