

- **Wide Range of Supply Voltage: 2 V to 16 V**
- **True Single-Supply Operation**
- **Designed for Performance Similar to Popular BIFET Op Amps**
- **Common-Mode Input Voltage Includes the Negative Rail**
- **Slew Rate . . . 12 V/μs Typ**
- **High Input Impedance . . . 10<sup>12</sup> Ω Typ**

**DEVICE FEATURES**

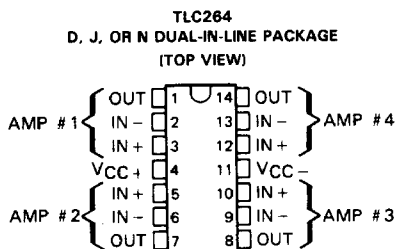
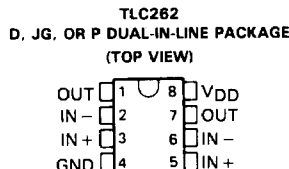
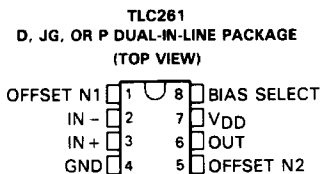
PARAMETER	FEATURE
Supply current per channel (Typ)	2.5 mA
Slew rate (Typ)	12 V/μs
Input offset voltage (Max)	
. . . Standard types	10 mV
. . . A-suffix types	5 mV
. . . B-suffix types	2 mV
Offset voltage drift (Typ)	0.1 μV/month <sup>†</sup>
Offset voltage temperature coefficient (Typ)	5 μV/°C
Input bias current (Typ)	1 pA
Input offset current (Typ)	1 pA
Operating temperature range	-40°C to 85°C

<sup>†</sup>The long-term drift value applies after the first month.

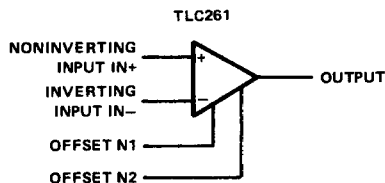
**description**

The TLC261, TLC262, and TLC264 LinCMOST™ operational amplifiers are designed to provide a true single-supply alternative to the popular BIFET op amps. The negative supply rail is included in both input and output common-mode voltage ranges. In addition, these devices feature input offset voltage selection.

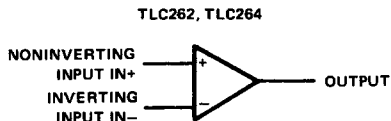
Unlike traditional metal-gate CMOS op amps, these devices utilize the Texas Instruments silicon-gate LinCMOST™ process giving them stable input offset voltages without sacrificing the advantage of metal-gate CMOS. Because the input common-mode range extends to the negative rail and the power consumption is extremely low, this family is ideally suited for battery-powered or energy-conserving applications. All devices are stable at unity gain.



**symbol**



**symbol (each amplifier)**



# TYPES TLC261, TLC262, TLC264 PROGRAMMABLE LOW-POWER LinCMOST™ OPERATIONAL AMPLIFIERS

## absolute maximum ratings over operating free-air temperature (unless otherwise noted)

Supply voltage, $V_{DD}$ (see Note 1)	18 V
Differential input voltage (see Note 2)	$\pm 18$ V
Input voltage range (any input)	-0.3 V to 18 V
Duration of short-circuit at (or below) 25°C free-air temperature (see Note 3)	unlimited
Continuous total dissipation at (or below) 25°C free-air temperature (see Note 4):	
TLC261ID, TLC262ID	725 mW
TLC261JG, TLC262JG	825 mW
TLC261IP, TLC262IP	725 mW
TLC264ID	950 mW
TLC264IJ	1025 mW
TLC264IN	875 mW
Operating free-air temperature range	-40°C to 85°C
Storage temperature range	-65°C to 150°C
Lead temperature 1,6 mm (1/16 inch) from case for 60 seconds: J or JG package	300°C
Lead temperature 1,6 mm (1/16 inch) from case for 10 seconds: D, N, or P package	260°C

- NOTES: 1. All voltage values, except differential voltages, are with respect to network ground terminal.  
 2. Differential voltages are at the noninverting input terminal with respect to the inverting input terminal.  
 3. The output may be shorted to either supply. Temperature and/or supply voltages must be limited to ensure the maximum dissipation rating is not exceeded.  
 4. For operation above 25°C free-air temperature, refer to Dissipation Derating Table below. In the J and JG packages, these chips are glass mounted.

DISSIPATION DERATING TABLE

PACKAGE	POWER RATING	DERATING FACTOR	ABOVE $T_A$
D (8-Pin)	725 mW	5.8 mW/°C	25°C
D (14-Pin)	950 mW	7.6 mW/°C	25°C
J (glass mounted)	1025 mW	8.2 mW/°C	25°C
JG (glass mounted)	825 mW	6.6 mW/°C	25°C
N	875 mW	7 mW/°C	25°C
P	725 mW	5.8 mW/°C	25°C

## recommended operating conditions

		MIN	NOM	MAX	UNIT
Supply voltage, $V_{DD}$		2	16		V
Common-mode input voltage, $V_{IC}$	$V_{DD} = 2$ V	0		1.2	V
	$V_{DD} = 4$ V	0		3	
	$V_{DD} = 10$ V	-0.05		9	
	$V_{DD} = 16$ V	-0.05		14	
Operating free-air temperature, $T_A$		-40		85	°C

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Operational Amplifiers