

# OPERATIONAL AMPLIFIER

# CA3030

General-purpose amplifier used in narrow-band and bandpass amplifier, feedback amplifier, dc and video amplifier, multivibrator, oscillator, comparator, servo driver, scaling adder, and balanced modulator-driver applications. 14-lead dual in-line plastic package; Outline No. 6. For schematic diagram and characteristics curves, see Figs. 225 and 226.

## MAXIMUM RATINGS

Positive DC Supply Voltage .....	$V_{CC}$	+20	V
Negative DC Supply Voltage .....	$V_{EE}$	-20	V
Total Device Dissipation .....		600	mW
Temperature Range:			
Operating .....		0 to 70	°C
Storage .....		-25 to 85	°C

## TYPICAL CHARACTERISTICS (At ambient temperature = 25°C,

$$V_{CC} = +12V, V_{EE} = -12V)$$

Input Offset Voltage .....	$V_{IO}$	1.37	mV
Input Offset Current .....	$I_{IO}$	1.07	$\mu A$
Input Bias Current .....	$I_I$	9.6	$\mu A$
Input Offset Voltage Sensitivity:			
Positive .....	$\Delta V_{IO}/\Delta V_{CC}$	0.096	mV/V
Negative .....	$\Delta V_{IO}/\Delta V_{EE}$	0.156	mV/V
Device Dissipation:			
Terminal 8 not connected .....	$P_T$	175	mW
Terminal 8 shorted to 12 .....	$P_T$	500	mW
Open-Loop Differential Voltage Gain			
(f = 1 kHz) .....	$A_{OL}$	70.2	dB
Open-Loop -3-dB Bandwidth .....	$BW_{OL}$	320	kHz
Common-Mode Rejection Ratio			
(f = 1 kHz) .....	CMR	103.5	dB
Maximum Output-Voltage Swing			
(f = 1 kHz) .....	$V_O(P-P)$	14	$V_{P-P}$
Input Impedance (f = 1 kHz) .....	$Z_{in}$	7.8	k $\Omega$
Output Impedance (f = 1 kHz) .....	$Z_{out}$	92	$\Omega$
Useful Frequency Range .....		dc to 50	MHz
Common-Mode Input-Voltage Range			
(f = 1 kHz) .....	$V_{CMR}$	+0.65, -8	V