

# CA3015

# OPERATIONAL AMPLIFIER

General-purpose amplifier used in narrow-band and bandpass amplifier, feedback amplifier, dc and video amplifier, multivibrator, oscillator, comparator, and servo driver applications. 12-lead "TO-5" package; Outline No. 2. 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
Input Signal Voltage (Single-ended) .....		+1, -8	V
Total Device Dissipation .....		600	mW
Temperature Range:			
Operating .....		-55 to 125	°C
Storage .....		-65 to 200	°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	$\mu A$

**TYPICAL CHARACTERISTICS (continued)**

Input Offset Voltage Sensitivity:			
Positive .....	$\Delta V_{IO}/\Delta V_{CC}$	0.096	mV/V
Negative .....	$\Delta V_{IO}/\Delta V_{BB}$	0.156	mV/V
Device Dissipation:			
Terminal 5 not connected .....	$P_T$	175	mW
Terminal 5 shorted to terminal 9 .....	$P_T$	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