

# CA3035

## ULTRA-HIGH-GAIN WIDE-BAND AMPLIFIER ARRAY

General-purpose amplifier with three individual amplifiers used in remote-control amplifier applications, such as TV receivers. 10-lead "TO-5" package; Outline No. 1. For schematic diagrams and characteristics curves, see Figs. 280 through 282.

### MAXIMUM RATINGS

Input Signal Voltage (Single-ended) .....	1	$V_{p-p}$
Supply Voltage .....	15	V
Total Device Dissipation .....	300	mW
Temperature Range:		
Operating .....	-55 to 125	°C
Storage .....	-65 to 200	°C

### TYPICAL CHARACTERISTICS (At ambient temperature = 25°C, $V_{CC} = +9V$ )

Quiescent Operating Voltage .....	$V_s$	2	V
Quiescent Operating Voltage .....	$V_6$	1.9	V
Quiescent Operating Voltage .....	$V_7$	4.9	V
Total Current Drain ( $R_{L3} = 5\text{ k}\Omega$ ) .....	$I_d$	5	mA
Voltage Gain ( $f = 40\text{ kHz}$ ):			
Amplifier 1 .....	$A_1$	44	dB
Amplifier 2 .....	$A_2$	46	dB
Amplifier 3 .....	$A_3$	42	dB
Cascade .....		132	dB
Output Voltage Swing:			
Amplifier 1, $R_{L1} = 10\text{ k}\Omega$ .....	$V_1$ out	2	$V_{p-p}$
Amplifier 2, $R_{L2} = 10\text{ k}\Omega$ .....	$V_2$ out	2.6	$V_{p-p}$
Amplifier 3, $R_{L3} = 5\text{ k}\Omega$ .....	$V_3$ out	8	$V_{p-p}$
Input Resistance ( $f = 40\text{ kHz}$ ):			
Amplifier 1 .....	$R_1$ in	50	$\text{k}\Omega$
Amplifier 2 .....	$R_2$ in	2	$\text{k}\Omega$
Amplifier 3 .....	$R_3$ in	670	$\Omega$
Output Resistance ( $f = 40\text{ kHz}$ ):			
Amplifier 1 .....	$R_1$ out	270	$\Omega$
Amplifier 2 .....	$R_2$ out	170	$\Omega$
Amplifier 3 .....	$R_3$ out	100	$\text{k}\Omega$
-3-dB Bandwidth .....			
Amplifier 1 .....	$BW_1$	500	$\text{kHz}$
Amplifier 2 .....	$BW_2$	2.5	$\text{MHz}$
Amplifier 3 .....	$BW_3$	2.5	$\text{MHz}$
Noise Figure (Amplifier 1) ( $R_s = 1\text{ k}\Omega$ , $f = 1\text{ kHz}$ ) .....	$NF_1$	6	dB
Sensitivity ( $V_{CC} = +13V$ , Relay Current = 7.5 mA) .....		100	$\mu\text{V}$