

CA3004

RF AMPLIFIER

General-purpose amplifier used in push-pull input and output, wide- and narrow-band amplifier, agc, detector, mixer, limiter, and modulator applications. 12-lead "TO-5" package; Outline No. 2. For schematic diagram and characteristics curves, see Figs. 138, 139, 143, 144, 149, 154, 157, and 163.

MAXIMUM RATINGS

Positive DC Supply Voltage	V_{CC}	+12	V
Negative DC Supply Voltage	V_{EE}	-12	V
Input Signal Voltage:			
Single-ended		± 3.5	V
Common-mode		+3.5 to -2.5	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,

$$V_{CC} = +6V, V_{EE} = -6V)$$

Input Offset Voltage	V_{IO}	1.7	mV
Input Offset Current	I_{IO}	0.125	μA
Input Bias Current	I_I	21	μA
Quiescent Operating Current:			
Terminals 4 and 5 not connected	I_0 or I_{I1}	1	mA
Terminal 4 connected to V_{EE} , terminal 5 not connected	I_0 or I_{I1}	2.7	mA
Terminal 4 not connected, terminal 5 connected to V_{EE}	I_0 or I_{I1}	0.45	mA
Terminals 4 and 5 connected to V_{EE}	I_0 or I_{I1}	1.25	mA
Quiescent Operating Current Ratio	I_0/I_{I1}	1.1	
Device Dissipation	P_T	26	mW
Power Gain ($f = 100$ MHz)	G_P	12	dB
Noise Figure ($f = 100$ MHz)	NF	6.3	dB
Common-Mode Rejection Ratio ($f = 1$ kHz)	CMR	98	dB
Useful Frequency Range		dc to 120	MHz
AGC Range (Maximum Voltage Gain to Complete Cutoff, $f = 1.75$ MHz)	AGC	-60 min	dB