

CA3020

MULTIPURPOSE WIDE-BAND POWER AMPLIFIER

Special-purpose amplifier used in audio applications; combines functions of preamplifier, phase-inverter, driver, and power-output stages. 12-lead "TO-5" package; Outline No. 2. For schematic diagrams and characteristics curves, see Figs. 237 through 244.

MAXIMUM RATINGS

Positive DC Supply Voltage:

Differential Amplifier	V _{cc}	+12	V
Push-Pull Amplifier	V _{cc}	+20	V
Input Signal Voltage (Single-ended)		±3	V

Total Device Dissipation:

At ambient temperatures up to 25°C		600	mW
At ambient temperatures above 25°C	Derate at	4.8	mW/°C

MAXIMUM RATINGS (continued)

Temperature Range:

Operating	—55 to 125 °C
Storage	—65 to 200 °C

TYPICAL CHARACTERISTICS (At ambient temperature = 25°C,

Positive Supply Voltage	V_{CC}	3	6	9	V
Zero-Signal Current Drain	I_{min}	7	14	22	mA
Maximum-Signal Current Drain	I_{max}	47	105	145	mA
Maximum Power Output	P_{out}	65	300	550	mW
Transducer Power Gain	G_p	—	58	—	dB
—3-dB Bandwidth	BW	—	6	—	MHz
Signal-to-Noise Ratio	S/N	—	70	—	dB
Total Harmonic Distortion	THD	—	1	—	%
Sensitivity	e_{in}	—	35	—	mV
Useful Frequency Range			dc to 8		MHz
Circuit Efficiency	η	—	45	—	%
Input Resistance ($f = 1$ kHz):					
Terminal 3 to ground	R_{in3}	—	600	—	Ω
Terminal 10 to ground	R_{in10}	—	40	—	k Ω