

HC2000H, HC2500

Multi-Purpose 7-Ampere Operational Amplifiers

Linear Amplifiers for Applications in Industrial and Commercial Equipment

The RCA-HC2000H and HC2500 hybrid-circuit operational amplifiers are designed for operation from either single or split power supplies at output currents up to 7 amperes and power outputs up to 100 watts. These versatile amplifiers are recommended for servoamplifiers, audio power amplifiers, driven inverters, power operational amplifiers, deflection amplifiers, solenoid drivers, voltage regulators, and similar linear-amplifier power applications. They are supplied in a metal hermetic package.

The HC2000H and HC2500 employ a quasi-complementary-symmetry output stage with homotaxial-base output transistors. They feature low distortion, with a maximum total harmonic distortion of 0.5 per cent over a bandwidth of 30 kHz at a power output of 60 watts and a typical intermodulation distortion of less than 1 per cent at rms power outputs

from 0.2 to 70 watts. At an rms output of 50 milliwatts, the HC2500 has an exceptionally low typical intermodulation distortion of only 0.06 per cent.

The HC2000H includes a load-line-limiting network that provides protection against short-circuit loads and against high-energy transients when the amplifier is used to drive inductive loads. Both circuits also feature adjustable idling current and direct coupling to the load.

High-reliability versions of the HC2000H are also available for use in aerospace, military, and critical industrial applications. These types are screened to four reliability levels (1, 2, 3, and 4) that approximate the reliability classes of MIL-STD-750. These slash-series types are the electronic industry's first series of high-reliability high-power hybrid-circuit op-amps.

Features:

- Bandwidth: 30 kHz at 60 W
- High power output: up to 100 W(rms)
- High output current: 7 A (peak)
- Low IMD and THD
- Adjustable idling current
- Stability with resistive or reactive loads
- Single or split power supply (30 to 75 V, single, ± 15 to ± 37.5 , split)
- Class AB output stage (HC2500)
- Class B output stage (HC2000H)
- Direct coupling to load
- Built-in load-line-limiting circuit to protect amplifiers from accidentally short-circuited output terminals (HC2000H)
- Reactive-load fault protection (HC2000H)
- Socket available
- Rugged package with heavy leads
- Light weight: 100 grams

MAXIMUM RATINGS, Absolute-Maximum Values:

V_S :		HC2000H	HC2500
Between leads 1 & 10		75 V	75 V
I_{OM}		7 A	7 A
P_T :			
Per Output Device		See Figs. 3 & 4	See Figs. 3 & 4
T_{stg}		-55 to +125°C	-55 to +125°C
T_J		-55 to +150°C	-55 to +150°C
T_L (During Soldering):			
At distance $\geq 1/8$ in. (3.17 mm) from case for 10 s max.		235°C	235°C
ϕL (Min):			
At distance ≥ 0.075 (1.91 mm) from case		0.04 in. (1.02 mm)	0.04 in. (1.02 mm)

