

Features

- 125 MHz bandwidth
- 1500V/ μ s slew rate
- Low quiescent power
- 100mA output current
- Internal bypass capacitors

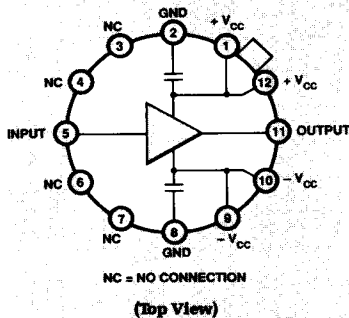
Applications

- Current booster
- Cable/line driver
- A/D input buffer
- Isolation buffer

Ordering Information

Part No.	Temp. Range	Pkg.	Outline#
EHOS-100AH	-25 to +85°C	TO-8	MDP0002
EHOS-100AH/E+	-25 to +85°C	TO-8	MDP0002
EHOS-100SH	-55 to +125°C	TO-8	MDP0002
EHOS-100SH/ 883B	-55 to +125°C	TO-8	MDP0002

Connection Diagram



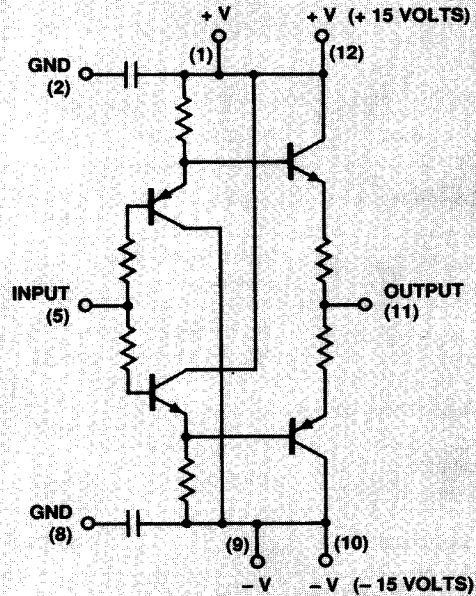
General Description

The EHOS-100 is a unity gain, high slew rate, high output current, bipolar buffer amplifier. The EHOS-100 has a -3 dB bandwidth of 125 MHz, and can deliver 100 mA into a load. It operates from ± 15 V power supplies. For optimal AC performance, two 0.01 μ F bypass capacitors are included in this device.

This high speed buffer may be used in a wide variety of applications in military, video and medical systems. Typical examples include coaxial cable drivers and A/D converter input buffers. The EHOS-100 is available in a 12-pin TO-8 metal can package.

Elantec's products and facilities comply with MIL-STD-883 Revision C, MIL-STD-1772, MIL-I-45208A, and other applicable quality specifications. For information on Elantec's military processing, see the Elantec document, QRA-3: *Elantec's 883B Program for Hybrid Integrated Circuits.*

Equivalent Schematic



EHOS-100

125 MHz Buffer Amplifier

Absolute Maximum Ratings

Voltage Between V+ and V-	40 V	Operating Junction Temperature	+175°C
Internal Power Dissipation (See Curves)	1.5 W	Storage Temperature	-65°C to +150°C
Output Current, Continuous	100 mA	Lead Temperature (soldering, 10 seconds)	+300°C
Output Current, Peak	250 mA		
Input Voltage	± V _S		
T _A Operating Temperature Range:			
EHOS-100AH	-25°C to +85°C		
EHOS-100SH	-55°C to +125°C		

Important Note: All parameters having Min./Max. specifications are guaranteed. The Test Level column indicates the specific device testing actually performed during production and Quality Assurance inspection. Elantec performs most electrical tests using modern high-speed automatic test equipment, specifically the LTX 77 Series system. Unless otherwise noted, all tests are pulsed tests, therefore T_J = T_C = T_A.

Test Level	Test Procedure
I	100% production tested and QA sample tested per QA test plan QCX0002.
II	100% production tested at T _A = 25°C, and QA sample tested at T _A = 25°C, T _{MAX} and T _{MIN} per QA test plan QCX0002.
III	QA sample tested per QA test plan QCX0002.
IV	Parameter is guaranteed (but not tested) by Design and Characterization Data.
V	Parameter is typical value at T _A = 25°C for information purposes only.

DC Electrical Characteristics

V_S = ±15 V, R_S = 50 Ω, T_A = T_{MIN} to T_{MAX}, unless otherwise specified.
 FULL Temp. = > EHOS-100AH = -25°C to +85°C; EHOS-100SH = -55°C to +125°C

Parameter	Test Conditions	Temp	EHOS-100SH				EHOS-100AH				Units
			Min.	Typ.	Max.	Test Level	Min.	Typ.	Max.	Test Level	
I _{IN} Input Bias Current	V _{IN} = 0 V; R _S = 10 kΩ	+25°C	5	20		I	5	25		I	μA
		FULL			25	I		40		III	μA
R _{IN} Input Impedance	V _{IN} = 1 V _{RMS} ; f = 1 kHz R _L = 1 kΩ	+25°C	100	270		I	100	270		I	kΩ
		FULL	100			I	100			III	kΩ
A _V Voltage Gain	V _{IN} = 1 V _{RMS} ; f = 1 kHz R _L = 1 kΩ	+25°C	0.95	0.97	1.0	I	0.94	0.96	1.0	I	V/V
		FULL	0.94			I	0.93			III	V/V
V _{OS} Output Offset Voltage	R _S = 50 Ω	+25°C	5	10		I	10	25		I	mV
		FULL			25	I		35		III	mV
ΔV _{OS} /ΔT	Output Offset Voltage TC	R _S = 50 Ω	FULL	25		V	25			V	μV/°C
R _{OUT}	Output Impedance	V _{IN} = 1 V _{RMS} ; f = 1 kHz; R _S = 500 Ω; R _L = 1 kΩ	FULL	8	12		I	8	12		Ω
V _{OUT}	Output Voltage Swing	R _L = 1 kΩ	FULL	±12	±13		I	±12	±13		V
I _S Supply Current	V _{IN} = 0 V	+25°C	13	16		I	15	20		I	mA
		FULL			20	I		20		III	mA
P _C Power Consumption	V _{IN} = 0 V	+25°C	390	480		I	450	600		I	mW
		FULL			600	I		600		III	mW

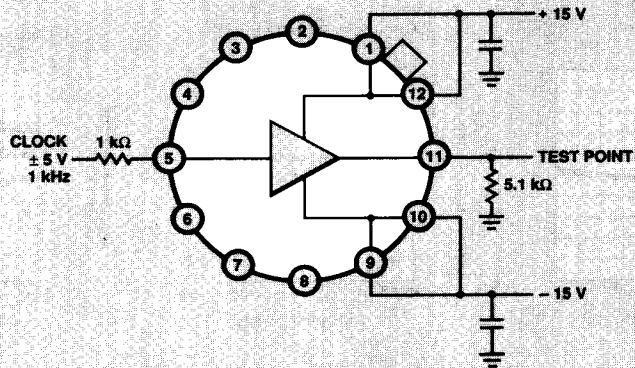
EHOS-100

125 MHz Buffer Amplifier

AC Electrical Characteristics $V_S = \pm 15V, R_S = 50\Omega, R_L = 1k\Omega, T_A = +25^\circ C$, unless otherwise specified.

Parameter	Test Conditions	EHOS-100SH				EHOS-100AH				Units
		Min.	Typ.	Max.	Test Level	Min.	Typ.	Max.	Test Level	
S_R Slew Rate	$V_{IN} = \pm 10V$ measured at $V_{OUT} = \pm 5V$	1000	1500		III	1000	1400		III	V/ μ Sec
BW Bandwidth	$V_{IN} = 1V_{RMS}$		125		V		125		V	MHz
t_r Rise Time	$\Delta V_{IN} = 0.5V$		2	5	III		2	5	III	ns
t_d Propagation Delay	$\Delta V_{IN} = 0.5V$		1.5		V		1.5		V	ns
P_N Phase Nonlinearity	BW = 1 to 20 MHz		2		V		2		V	$^\circ$
HD Harmonic Distortion			<0.1		V		<0.1		V	%

Burn-In Circuit



EHOS-100

125 MHz Buffer Amplifier

Typical Performance Curves

