NEC
NEC Electronics Inc.

μPC754
MAGNETIC SERVO HEAD PREAMPLIFIER

Description

The μPC754 is a two stage wideband differential amplifier which features a very narrow gain range and 30 MHz bandwidth. This device is designed to be used primarily as the preamplifier for the servo head of the model 3348 head/arm assembly.

Features

- ☐ Very narrow gain range
- ☐ 30 MHz bandwidth

Ordering Information

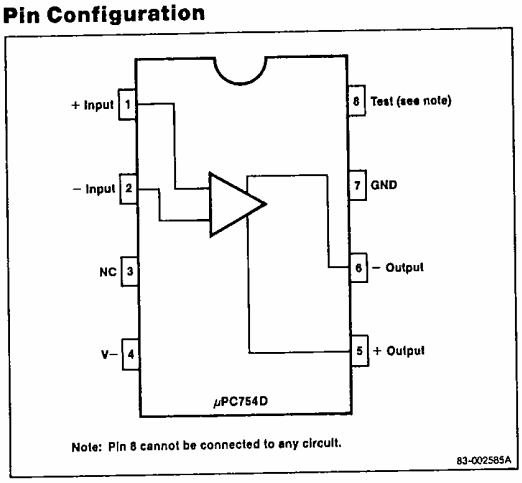
Part Number	Package	Operating Temperature Range
μPC754D	Ceramic DIP	0°C to +70°C

Absolute Maximum Ratings

Power Supply Voltage	−12 V
Differential Input Voltage	±1 V
Operating Temperature Range	0 to +70°C
Storage Temperature Range	−65 to +150°C

Comment: Stress above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

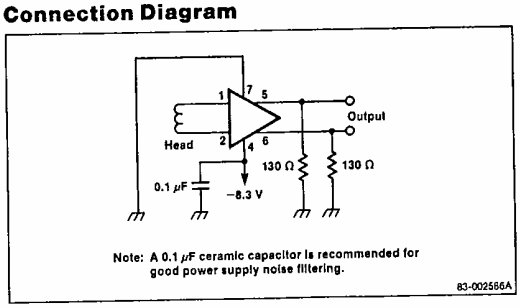
Pin Configuration



Note: Pin 8 cannot be connected to any circuit.

83-002585A

Connection Diagram



Note: A 0.1 μF ceramic capacitor is recommended for good power supply noise filtering.

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Recommended Operating Conditions

Parameter	Symbol	Limits Min.	Typ.	Max.	Unit	Test Conditions
Supply Voltage	V−	−7.45	−8.3	−9.15	V	
Input Signal	V_{IN}		2		mVpp	
Ambient Temperature	T_A	0		70	°C	

Electrical Characteristics

$T_A = 25°C$, $V- = -8.3$ V ±10%

Parameter	Symbol	Limits Min.	Typ.	Max.	Unit	Test Conditions
Differential Gain		77	93	110		$R_L = 130\ \Omega$
Bandwidth	BW	10	30		MHz	$V_{IN} = 2\ mV_{pp}$
Input Resistance	R_{IN}	800	1000	1250	Ω	
Input Capacitance	C_{IN}		3		pF	
Output Dynamic Range (Differential)		350			mVpp	$R_L = 130\ \Omega$
Power Supply Current	I_{CC}		26	35	mA	$V- = -9.15$ V
Output Offset	V_{OS}			±600	mV	$R_S = 0$, $R_L = 130\ \Omega$
Equivalent Input Noise	e_n		8	14	μV	$R_S = 0$, $R_L = 130\ \Omega$, BW = 4 MHz
PSPR, Input Referred	PSPR	50	65		dB	$R_S = 0$, $f \leq 5$ MHz
Gain Sensitivity (Supply)			±1.3		%	$R_L = 130\Omega$
Gain Sensitivity (Temperature)			−0.2		%/°C	$T_A = 25°C$ to 70°C, $R_L = 130\ \Omega$
CMRR, Input Referred	CMRR	55	70		dB	$f \leq 5$ MHz