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NTE1497
Integrated Circuit
Audio Preamp w/ALC

Description:
The NTE1497 is a silicon monolithic integrated circuit in a 7–Lead SIP type package designed for use as a high gain, low noise preamplifier with Automatic Level Control (ALC). This device is primarily used as a record and playback amplifier in cassette tape recorders.

Features:
- Low Noise
- Wide Supply Voltage Range: V_{CC} = 2.2V to 15V
- High Gain: A_{vo} = 70dB Typ
- High Output Voltage: V_{OM} = 1.0 V_{rms} Typ.
- Low Distortion
- Wide ALC Range

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)
Supply Voltage, V_{CC} 15V
Package Dissipation (T_A = 75°C), P_D 270mW
Operating Temperature, T_{opt} . . . . . –20° to +75°C
Storage Temperature, T_{stg} . . . . . –40° to +125°C

Recommended Operating Conditions: (T_A = +25°C unless otherwise specified)
Operating Supply Voltage 5V
Supply Voltage Range . . . . . 2.2V to 15V

Electrical Characteristics: (T_A = +25°C, V_{CC} = 5V, f = 1kHz, R_L = 10kΩ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_{CC}	$\nu_{in} = 0$	0.9	1.5	2.2	mA
Open Loop Voltage Gain	A_{vo}	ν_{in} = –80dBm	64	70	–	dB
Voltage Gain	A_v	ν_{in} = –50dBm	–	33.5	–	dB
Maximum Output Voltage	V_{OM}	T.H.D. = 1%	0.7	1.0	–	V
Input Impedance	r_i	f = 1kHz	–	100	–	kΩ
Equivalent Input Noise Voltage	ν_{nin}	R_G = 2.2kΩ, NAB Equalized 15 to 30kHz BPF + 40dB Amp	–	1.2	2.0	μV_{rms}
Collector Voltage of ALC Transistor	V_{Pin5}	Pin7 to Pin6: 100kΩ, Pin7 to Pin5: 100Ω	–	0.7	–	V

Pin Connection Diagram
(Front View)