

## NTE983 Integrated Circuit Low Noise Dual Preamp

### **Description:**

The NTE983 is a linear monolithic integrated circuit in a 14-Lead DIP type package designed for use with low-level signals in low-noise applications. This device offers outstanding value, performance, and reliability in both consumer and industrial products such as stereo tape players, microphone amplifiers, phonograph preamplifiers, and FM stereo receivers.

An integral voltage regulator eliminates the need for audio or RF decoupling. Internal feedback resistors are provided for NAB equalization.

### **Features:**

- Single Power Supply Operation
- Wide Supply Voltage Range
- Matched Open Loop Voltage Gain
- Turn-On Delay

### **Absolute Maximum Ratings:**

Power Supply,  $V_{CC}$  ..... +16V  
 Power Dissipation,  $P_D$  ..... 670mW  
     Derate Above 25°C ..... 8.3mW/°C  
 Operating Temperature Range,  $T_{opr}$  ..... -20° to +85°C  
 Storage Temperature Range,  $T_{stg}$  ..... -65° to +150°C

### **Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ , $+10.5\text{V} \leq V_{CC} \leq +16\text{V}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Voltage Gain	$G_V$	$f = 1\text{kHz}$	40	—	46	dB
Total Harmonic Distortion	THD	$f = 1\text{kHz}$ , $V_{out} = 500\text{mV}_{rms}$	—	0.5	1.0	%
Noise Out		$R_S = 620\Omega$	—	1.5	—	mV
Gain Balance			—	—	2.0	dB
Channel Separation	Sep		40	—	—	kΩ
Input Impedance	$z_i$		—	40	—	kΩ
Ripple Rejection	RR	$f = 1\text{kHz}$	—	35	—	dB
Input Bias Current	$I_B$		—	—	3.0	μA
Turn-On Delay	$t_d$		—	1.0	—	sec
Supply Current	$I_{CC}$		—	—	12	mA

### Pin Connection Diagram

