



**ELECTRONICS, INC.**  
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## NTE1210 Integrated Circuit Preamp <sup>w</sup>/ALC

**Description:**

The NTE1210 is a low-noise, high-gain preamplifier with a built-in ALC (automatic level control) circuit in a 9-Lead SIP type package designed for use as a record/playback preamp in cassette tape recorders.

**Features:**

- Wide ALC Range
- Wide Range of Working Power Supply Voltage: 3V to 12V
- High Gain, Low Distortion, and Low Noise

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Power Supply Voltage,  $V_{CC}$  ..... 15V  
 Power Dissipation,  $P_D$  ..... 55mW  
     Derate Above  $25^\circ\text{C}$  ..... 5.5mW/ $^\circ\text{C}$   
 Operating Temperature Range,  $T_{opr}$  .....  $-25^\circ$  to  $+75^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-55^\circ$  to  $+125^\circ\text{C}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 5\text{V}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	$I_{CC}$	$S_1 = 2, S_2 = 1, S_3 = 1$	0.5	1.1	2.2	mA
Voltage Gain (Open Loop)	$G_{VO}$	$f = 1\text{kHz}, S_1 = 2, S_2 = 2, S_3 = 1$	–	70	–	dB
Output Noise Voltage	$V_{NO}$	$BW = 30\text{Hz to } 20\text{kHz}, S_1 = 2, S_2 = 2, S_3 = 1$	–	70	100	$\mu\text{V}_{rms}$
Total Harmonic Distortion	THD	$f = 1\text{kHz}, S_1 = 1, S_2 = 2, S_3 = 1$	–	0.12	0.3	%
Maximum Output Voltage	$V_{OM}$	$f = 1\text{kHz}, S_1 = 1, S_2 = 2, S_3 = 1$	0.7	1.0	–	$\text{V}_{rms}$
ALC Voltage	$V_C$	$S_1 = 1, S_2 = 2, S_3 = 2$	–	0.2	1.0	V

**Pin Connection Diagram**  
(Front View)

