

## NTE1221 Integrated Circuit Stereo Preamp

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

Maximum Supply Voltage, $V_{CCmax}$ .....	25V
Collector–Base Voltage (Q1), $V_{CBO}$ .....	20V
Collector–Emitter Voltage (Q1), $V_{CEO}$ .....	15V
Emitter–Base Voltage (Q1), $V_{EBO}$ .....	5V
Collector Current (Q1), $I_C$ .....	25mA
Operating Temperature Range, $T_{opr}$ .....	$-20^\circ$ to $+70^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-30^\circ$ to $+125^\circ\text{C}$

**Recommended Operatin Conditions:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Recommended Supply Voltage, $V_{CC}$ .....	6V
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**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 6\text{V}$ ,  $f = 1\text{kHz}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dissipation Current	$I_4, I_{13}$		–	3.5	6.0	mA
Voltage Gain	VG	$V_i = 0.5\text{mV}$	57	61	–	dB
Output Voltage	$V_O$	THD = 5%, $R_{NF} = 100\Omega$	1.0	1.5	–	V
Bandwidth	BW	$V_i = 0.5\text{mV}$ , $-3\text{dB}$	–	400	–	kHz
Total Harmonic Distortion	THD	$V_O = 0.45\text{V}$ , $R_{NF} = 100\Omega$	–	0.5	0.9	%
Input Resistance	$r_i$		–	90	–	$k\Omega$
Output Resistance	$r_o$		–	1	–	$k\Omega$
Crosstalk	CT		–	$-40$	–	dB
Noise Voltage Converted to Input	$V_{NI}$	$V_{CC} = 10\text{V}$ , $R_g = 600\Omega$ , NAB 4.8cm/s	–	1.0	3.0	$\mu\text{V}$
<b>Transistor Characteristics</b>						
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 15\text{V}$	–	–	1.0	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4\text{V}$	–	–	1.0	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CB} = 3\text{V}$ , $I_C = 1\text{mA}$	70	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{mA}$ , $I_C/I_B = 10\text{mA}$	–	0.5	–	V

### Pin Connection Diagram

