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# NTE1053
# Integrated Circuit
# AF High Gain Preamplifier

**Absolute Maximum Ratings:** ($T_A$ = +25°C unless otherwise specified)

Supply Voltage, $V_{CC}$ . . . . . 7V

Circuit Voltage

$V_{3-2}$, $V_{5-2}$ . . . . . 9.5V

$V_{8-7}$, $V_{9-10}$ . . . . . 6V

Supply Current,

$I_3$ . . . . . 20mA

$I_4$, $I_7$ . . . . . 3mA

$-I_9$, $-I_{10}$ . . . . . 10mA

Load Resistance, $R_L$ . . . . . 3kΩ Min.

Power Dissipation, $P_T$ . . . . . 160mW

Operating Temperature Range, $T_{opt}$ . . . . . –20° to +75°C

Storage Temperature Range, $T_{stg}$ . . . . . –20° to +80°C

**Electrical Characteristics:** ($T_A$ = 25°C, unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| DC Current Gain | $h_{FE}$ | $I_{10}$ = 100μA, $V_{10-7}$ = 0V | 40 | – | – | |
| | $V_{3-2}$ | $I_3$ = 7mA, $V_{5-2}$ = 7V | – | 0.8 | 1.2 | V |
| | | $V_{cc}$ = 7V, $I_9$ = 200μA | 3.4 | 3.8 | 4.2 | V |
| Voltage Gain | $G_V$ | $V_{cc}$ = 7V, $V_O$ = 1V, f = 1kHz | 93 | – | – | dB |
| | NF | $V_{cc}$ = 7V, $R_s$ = 2kΩ, f = 30 to 15000Hz | – | 2.5 | 4 | dB |

**Pin Connection Diagram**