



ELECTRONICS, INC.  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## NTE1637 Integrated Circuit Dual AF Power Amplifier, 4.3W

**Features:**

- Built-in 2 Channels Enabling use in Stereo and Bridge Amplifier Applications.
- Low Switching Distortion at High Frequencies
- Minimum Number of External Parts Required: 9 Pcs. Min. (Stereo/Bridge)
- Small Shock Noise at the Time of Power Supply ON/OFF due to Built-In Muting Circuit
- Good Ripple Rejection due to Built-In Ripple Filter
- Voltage Gain Fixed at 45dB (Bridge: 51dB). Variable Voltage Gain Available with External Resistor Added.
- Easy to Mount on Board and also easy to Design Radiator fin due to use of 14-Pin SIP

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

Supply Voltage,  $V_{CC}$  ..... 18V  
 Power Dissipation (Note 1),  $P_D$  ..... 10W  
 Operating Ambient Temperature Range,  $T_{opr}$  .....  $-20^\circ$  to  $+75^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-55^\circ$  to  $+150^\circ\text{C}$

Note 1. Using  $100 \times 100 \times 1.5\text{mm}^3$  Al fin.

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

Supply Voltage,  $V_{CC}$  ..... 12V  
 Load Resistance,  $R_L$   
     Stereo .....  $4\Omega$  to  $8\Omega$   
     Bridge .....  $8\Omega$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 12\text{V}$ ,  $f = 1\text{kHz}$ ,  $R_L = 4\Omega$  Stereo  $8\Omega$  Bridge)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	$I_{CCO}$		-	45	60	mA
Voltage Gain Stereo	$V_G$	Closed Loop	43	45	47	dB
Bridge			49	51	53	dB

**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 12\text{V}$ ,  $f = 1\text{kHz}$ ,  $R_L = 4\Omega$  Stereo  $8\Omega$  Bridge)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Voltage Gain Difference	$\Delta V_G$	Stereo	-	-	$\pm 1$	dB
Output Power Stereo $4\Omega$	$P_O$	THD = 10%	3.6	4.2	-	W
Stereo $8\Omega$			-	2.5	-	W
Bridge $8\Omega$			-	9.0	-	W
Total Harmonic Distortion Stereo	THD	$P_O = 250\text{mW}$	-	0.3	1.5	%
Bridge			-	0.5	-	%
Input Resistance	$r_i$		21	30	-	$k\Omega$
Output Noise Voltage	$V_{NO}$	$R_g = 0$ , Stereo	-	0.3	1.0	mV
		$R_g = 10k\Omega$ , Stereo	-	0.5	2.0	mV
Ripple Rejection	$R_r$	$R_g = 0$ , $V_r = 150\text{mV}$ , Stereo	40	46	-	dB
Channel Separation	Sep	$R_g = 10k\Omega$ , $V_O = 0\text{dB}$ , Stereo	40	55	-	dB

**Pin Connection Diagram**  
(Front View)



