



**ELECTRONICS, INC.**  
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## NTE1377 Integrated Circuit AF Power Amplifier, 6W/Channel

**Features:**

- Built-In 2 Channels (Dual) Enabling use in Stereo and Bridge Amplifier Applications  
     Dual: 6W x 2 Typ  
     Bridge: 19W Typ
- Minimum Number of External Parts Required
- Low Pop Noise during Power Supply ON/OFF and Good Starting Balance
- Good Ripple Rejection: 46dB Typ
- Good Channel Separation
- Low Residual Noise ( $R_g = 0$ )
- Low Distortion over a Wide Range of Low to High Frequencies
- Built-In Audio Muting Function
- Built-In Protectors:
  - a. Thermal Protection
  - b. Overvoltage, Surge Voltage Protection
  - c. Pin-to-Pin Short Protection

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

Maximum Supply Voltage, $V_{CCmax}$	
Quiescent ( $t = 30\text{sec}$ )	25V
Operating	18V
Surge Supply Voltage ( $t \leq 0.2\text{sec}$ ), $V_{CCsurge}$	50V
Allowable Power Dissipation ( $T_C = +75^\circ\text{C}$ ), $P_{dmax}$	15W
Thermal Resistance, Junction to Case, $R_{\theta JC}$	$3^\circ\text{C/W}$
Operating Temperature Range, $T_{opr}$	$-20^\circ$ to $+75^\circ\text{C}$
Storage Temperature Range, $T_{stg}$	$-40^\circ$ to $+150^\circ\text{C}$

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

Recommended Supply Voltage, $V_{CC}$	13.2V
Load Resistance, $R_L$	
Dual	$2\Omega$ to $8\Omega$
Bridge	$4\Omega$ to $8\Omega$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 13.2\text{V}$ ,  $R_L = 4\Omega$ ,  $f = 1\text{kHz}$ ,  $R_g = 600\Omega$ , with  $100 \times 100 \times 1.5\text{mm}^3$  Al fin unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Current	$I_{CCO}$		–	100	200	mA
Voltage Gain	$V_G$		49.5	51.5	53.5	dB
Gain Differential	$\Delta V_G$		–	–	2	dB
Output Power Dual	$P_O$	THD = 10%	5.0	6.0	–	W
Bridge			–	19	–	W
Total Harmonic Distortion	THD	$P_O = 1\text{W}$	–	0.1	1.0	%
Input Resistance	$r_i$		–	30	–	k $\Omega$
Output Noise Voltage	$V_{no}$	$R_g = 0$	–	0.6	1.0	mV
		$R_g = 10\text{k}\Omega$	–	1.0	2.0	mV
Ripple Rejection Ratio	$R_r$	$V_R = 200\text{mV}$ , $f_R = 100\text{Hz}$ , $R_g = 0$	–	46	–	dB
Channel Separation	Ch Sep	$v_o = 0\text{dBm}$ , $R_g = 10\text{k}\Omega$	45	55	–	dB
Muting Rejection	ATT	$v_o = 0\text{dBm}$ , $V_M = 9\text{V}$	–	40	–	dB

**Pin Connection Diagram**  
(Front View)

