



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°C/W
Operating Temperature Range, T_{opr}	-20° to $+75^\circ\text{C}$
Storage Temperature Range, T_{stg}	-40° 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	2Ω to 8Ω
Bridge	4Ω to 8Ω

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	ΔV_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 Ω
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

