



ELECTRONICS, INC.

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NTE7146 Integrated Circuit Dual (12W + 12W) Stereo Amplifier w/Muting

Description:

The NTE7146 is a class AB dual audio power amplifier assembled in an 11-Lead Staggered SIP type package specifically designed for high quality sound applications such as HI-FI music centers and stereo TV sets.

Features:

- Wide Supply Voltage Range
- High Output Power: 12W + 12W @ $V_S = 28V$, $R_L = 8\Omega$, THD = 10%
- Mute facility (Pop Free) with Low Consumption
- AC Short Circuit Protection
- Thermal Overload Protection

Absolute Maximum Ratings:

Supply Voltage, V_S	35V
Output Peak Current, I_O	
Repetitive ($f > 20Hz$)	2.5A
Non-Repetitive ($t = 100\mu s$)	3.5A
Total Power Dissipation ($T_C = +70^\circ C$), P_{tot}	25W
Operating Temperature Range, T_{opr}	0° to $+70^\circ C$
Storage Temperature Range, T_{stg}	-40° to $+150^\circ C$
Maximum Thermal Resistance, Junction-to-Case, R_{thJC}	$3^\circ C/W$

Electrical Characteristics: ($T_A = +25^\circ C$, $V_S = 28V$, $R_L = 8\Omega$, $G_V = 30dB$, $f = 1kHz$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_S		10	–	32	V
Quiescent Output Voltage	V_O		–	13.5	–	V
Total Quiescent Current	I_q		–	70	95	mA
Output Power (RMS)	P_O	THD = 10%, $T_A = +85^\circ C$	10	12	–	W
		THD = 1%	–	9.5	–	W
Total Harmonic Distortion	THD	$P_O = 1W$, $f = 1kHz$	–	0.02	0.2	%
		$P_O = 0.1W$ to $8W$, $f = 100Hz$ to $10kHz$	–	–	0.5	%

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$, $V_S = 28\text{V}$, $R_L = 8\Omega$, $G_V = 30\text{dB}$, $f = 1\text{kHz}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Crosstalk	CT	$R_S = 10\text{k}\Omega$, $f = 1\text{kHz}$	-	70	-	dB
		$R_S = 10\text{k}\Omega$, $f = 10\text{kHz}$	-	60	-	dB
Input Resistance	R_I		100	200	-	$\text{k}\Omega$
Low Frequency Roll-Off (-3dB)	f_L		-	40	-	Hz
High Frequency Roll-Off (-3dB)	f_H		-	80	-	kHz
Total Input Noise Voltage	e_N	A Curve; $R_S = 10\text{k}\Omega$	-	1.5	-	mV
		$f = 22\text{Hz to } 22\text{kHz}$, $R_S = 10\text{k}\Omega$	-	3	10	μV
Supply Voltage Rejection (Ea Channel)	SVR	$R_S = 10\text{k}\Omega$, $f = 100\text{Hz}$, $V_r = 0.5\text{V}$	45	60	-	dB
Thermal Shutdown Junction Temperature	T_J		-	145	-	$^\circ\text{C}$
Mute Function						
Mute Threshold	$V_{T\text{MUTE}}$		1.0	1.6	-	V
Play Threshold	$V_{T\text{PLAY}}$		-	4.5	-	V
Mute Attenuation	ATT_{AM}		70	100	-	dB
Quiescent Current @ Mute	$I_{q\text{MUTE}}$		-	7	10	mA

Pin Connection Diagram
(Front View)

