

NTE1285 & NTE1286 Integrated Circuit Audio Power Amplifier, 5.8W

Description:

The NTE1285 and NTE1286 are audio power amplifiers in a 7-Lead SIP type package designed especially for car radio and car stereo applications. These devices are encapsulated in newly developed small packages featuring low thermal resistance, providing easy design for 2Ω . At 14.4V the devices give output power of 7W with $R_L = 4\Omega$ and 11W with $R_L = 2\Omega$.

Features:

- High Output Power
- Low Transient Noise at Power Supply Switch ON
- Mirror Image Pin Configurations
- Protection Circuits are Provided for the Following:
 - Load Dump Protection
 - Thermal Shut-Down Protection
 - Overvoltage Protection
 - Output Terminal Short-Circuit Protection

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

Supply Voltage (Surge PW = 200ms), $V_{CC\text{surge}}$	40V
Supply Voltage (Quiescent, Note 1), V_{CC1}	25V
Supply Voltage (Operational), V_{CC2}	18V
Peak Circuit Current, $I_{CC\text{peak}}$	4.5A
Packag Dissipation, P_D	12W
Operating Temperature Range (Note 1), T_{opr}	-30° to $+75^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$

Note 1. Using an aluminum heat sink 100mm x 100mm x 1mm.

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

Supply Voltage Range, V_{CC}	9.5V to 16V
Load Impedance, R_L	4Ω to 2Ω

Electrical Characteristics: ($T_A = +25^{\circ}\text{C}$, $f = 1\text{kHz}$, $R_L = 4\Omega$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_{CC}	$v_{in} = 0$, $V_{CC} = 13.2\text{V}$	23	45	80	mA
Output Power	P_O	$R_L = 4\Omega$, THD = 10%, $V_{CC} = 13.2\text{V}$	5.0	5.8	–	W
		$R_L = 4\Omega$, THD = 10%, $V_{CC} = 14.4\text{V}$	–	7.0	–	W
		$R_L = 2\Omega$, THD = 10%, $V_{CC} = 13.2\text{V}$	–	9.2	–	W
		$R_L = 2\Omega$, THD = 10%, $V_{CC} = 14.4\text{V}$	–	11.0	–	W
Total Harmonic Distortion	THD	$P_O = 0.5\text{W}$	–	0.3	1.0	%
Voltage Gain	A_v	$P_O = 0.5\text{W}$	51.0	53.5	56.0	dB
Output Noise Level	v_n	$R_g = 10\text{k}\Omega$	–	1.4	4.0	mV_{rms}

