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## NTE7198 Integrated Circuit 25 + 25W Stereo Amplifier w/Mute and Stand-By

**Description:**

The NTE7198 is a class AB dual audio power amplifier 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 (Up To  $\pm 25V$  ABS Max.)
- Split Supply
- High Output Power (25 + 25W at THD = 10%,  $R_L = 8\Omega$ ,  $V_S = \pm 20V$ )
- No Pop at Turn ON/OFF
- Mute (Pop Free)
- Stand-By Feature (Low  $I_q$ )
- Short Circuit Protection
- Thermal Overload Protection

**Absolute Maximum Ratings:**

DC Supply Voltage,  $V_S$  .....  $\pm 25V$   
 Output Peak Current (Internally Limited),  $I_O$  ..... 4.5A  
 Power Dissipation ( $T_C = +70^\circ C$ ),  $P_{tot}$  ..... 30W  
 Junction Temperature Range,  $T_J$  .....  $-40^\circ$  to  $+150^\circ C$   
 Operating Temperature Range,  $T_{opr}$  .....  $-20^\circ$  to  $+85^\circ C$   
 Storage Temperature Range,  $T_{stg}$  .....  $-40^\circ$  to  $+150^\circ C$   
 Thermal Resistance, Junction-to-Case,  $R_{thJC}$  .....  $2^\circ C/W$

**Electrical Characteristics:** ( $T_A = +25^\circ C$ ,  $V_S = \pm 20V$ ,  $R_L = 8\Omega$ ,  $R_S = 50\Omega$ ,  $G_V = 30dB$ ,  $f = 1kHz$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage Range	$V_S$		$\pm 5$	-	$\pm 25$	V
Total Quiescent Current	$I_q$		-	80	130	mA
Input Offset Voltage	$V_{OS}$		-20	-	+20	mV
Non-Inverting Input Bias Current	$I_b$		-	500	-	nA
Music Output Power (Note 1)	$P_O$	THD = 10%, $R_L = 8\Omega$ , $V_S = \pm 22.5V$	-	32	-	W

Note 1. Full Power: up to  $V_S = \pm 22.5V$  with  $R_L = 8\Omega$  and  $V_S = \pm 16V$  with  $R_L = 4\Omega$ .  
 Music Power: the maximum power which the amplifier is capable of producing across the rated load resistance (regardless of non-linearity) 1sec after the application of a sinusoidal input signal of frequency 1kHz.

**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$ ,  $V_S = \pm 20\text{V}$ ,  $R_L = 8\Omega$ ,  $R_S = 50\Omega$ ,  $G_V = 30\text{dB}$ ,  $f = 1\text{kHz}$  unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Output Power	$P_O$	THD = 10%	$R_L = 8\Omega$	20	25	-	W
			$R_L = 4\Omega, V_S = \pm 16\text{V}$	-	25	-	W
		THD = 1%	$R_L = 8\Omega$	-	20	-	W
			$R_L = 4\Omega, V_S = \pm 16\text{V}$	-	20	-	W
Total Harmonic Distortion	THD	$R_L = 8\Omega$	$P_O = 1\text{W}, f = 1\text{kHz}$	-	0.01	-	%
			$P_O = 0.1$ to $15\text{W}$ , $f = 100\text{Hz}$ to $15\text{kHz}$	-	-	0.7	%
		$R_L = 4\Omega$	$P_O = 1\text{W}, f = 1\text{kHz}$	-	0.02	-	%
			$P_O = 0.1$ to $12\text{W}$ , $f = 100\text{Hz}$ to $15\text{kHz}$ , $V_S = \pm 16\text{V}$	-	-	1	%
Crosstalk	$C_T$	$f = 1\text{kHz}$		-	70	-	dB
		$f = 10\text{kHz}$		-	60	-	dB
Slew Rate	SR			-	10	-	V/ $\mu\text{s}$
Open Loop Voltage Gain	$G_{OL}$			-	80	-	dB
Total Input Noise	$e_N$	A Curve		-	3	-	$\mu\text{V}$
		$f = 20\text{Hz}$ to $22\text{kHz}$		-	4	8	$\mu\text{V}$
Input Resistance	$R_i$			15	20	-	$\text{k}\Omega$
Supply Voltage Rejection (Each Channel)	SVR	$f_r = 100\text{Hz}, V_r = 0.5\text{V}$		-	60	-	dB
Thermal Shut-Down Junction Temperature	$T_j$			-	145	-	$^\circ\text{C}$
<b>Mute Function</b> (ref: $+V_S$ )							
Mute / Play Threshold	$V_{T\_MUTE}$			-7	-6	-5	V
Mute Attenuation	$A_M$			60	70	-	dB
<b>Stand-By Function</b> (ref: $+V_S$ )							
Stand-By / Mute Threshold	$V_{T\_ST-BY}$			-3.5	-2.5	-1.5	V
Stand-By Attenuation	$A_{ST-BY}$			-	110	-	dB
Quiescent Current at Stand-By	$I_{q\_ST-BY}$			-	3	-	mA

**Pin Connection Diagram**  
(Front View)



