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## NTE7102 Integrated Circuit Dual Audio Power Amplifier, 5.5W/Ch (20W BTL)

**Description:**

The NTE7102 is a class B dual audio power amplifier in a 14-Lead DIP type package designed for use in a music center and a radio cassette player.

**Features:**

- High Output Power: 20W Typ @  $V_{CC} = 18V, R_L = 8\Omega$  (BTL)  
 5.5W/Ch Typ @  $V_{CC} = 18V, R_L = 8\Omega$   
 7W/Ch Typ @  $V_{CC} = 15V, R_L = 4\Omega$   
 5.7W/Ch Typ @  $V_{CC} = 12V, R_L = 3\Omega$   
 4.6W/Ch Typ @  $V_{CC} = 12V, R_L = 4\Omega$
- Wide Operating Voltage Range:  $V_{CC} = 6$  to 20V
- Low Quiescent Current:  $I_{CC} = 23mA$  Typ @  $V_{CC} = 15V$
- Low Noise:  $N_L = 0.25mV_{rms}$  Typ
- High Supply Voltage Rejection:  $SVR = 55dB$  Typ
- No Shock Noise at Power Supply Switch ON and OFF
- Soft Clipping Wave Form
- Built-In Thermal Shutdown Circuit
- Low Thermal Resistance:  $R_{\theta JC} = 3^{\circ}C/W$
- Few External Components

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

Supply Voltage,	
No Signal, $V_{CC1}$ .....	28V
Operating, $V_{CC2}$ .....	25V
Powewr Dissipation (100 x 100 x 2mm Al Heat Sink), $P_D$ .....	14W
Operating Temperature Range, $T_{opr}$ .....	-20° to +70°C
Storage Temperature Range, $T_{stg}$ .....	-40° to +150°C

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

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	$V_{CC}$	6.0	12.15	20.0	V
Load Impedance (Dual)	$R_L$	3	4	8	$\Omega$
Load Impedance (BTL)	$R_L$	-	-	8	$\Omega$
Voltage Gain	$A_v$	38	48	-	dB

**Electrical Characteristics:** ( $V_{CC} = 15V$ ,  $R_L = 4\Omega$ ,  $f = 1kHz$ ,  $T_A = +25^\circ C$ , 100 x 100 x 2mm Al panel Heat Sink unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Circuit Current	$I_{CC}$	No Signal	–	23	36	mA	
Voltage Gain	$A_v$		46	48	50	dB	
Output Power	$P_O$	THD = 10%	$V_{CC} = 12V$ , $R_L = 4\Omega$	–	4.6	–	W
			$V_{CC} = 12V$ , $R_L = 3\Omega$	–	5.7	–	W
			$V_{CC} = 15V$ , $R_L = 4\Omega$	6.0	7.0	–	W
			$V_{CC} = 18V$ , $R_L = 8\Omega$	–	5.5	–	W
		THD = 10%, BTL, $V_{CC} = 18V$ , $R_L = 4\Omega$	–	20	–	W	
Total Harmonic Distortion	THD	$P_O = 1W$	–	0.2	1.0	%	
Output Noise Voltage	NL	DIN AUDIO, $R_G = 0$	–	0.26	0.6	$mV_{rms}$	
Crosstalk	CT	$P_O = 2W$ , other Ch, $R_G = 0$	45	55	–	dB	
Channel Balance	Ch. B	$P_O = 4W$	–1	0	+1	dB	
Ripple Rejection	SVR	$R_G = 0$ , $f = 100Hz$ , $V = 0.3mV_{rms}$	45	55	–	dB	
Input Impedance	$Z_{in}$		20	30	–	k $\Omega$	

**Pin Connection Diagram**  
(Front View)



