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NTE7155
Integrated Circuit
Dual Low–Voltage Power Amplifier

Description:
The NTE7155 is a monolithic integrated circuit in an 8–Lead DIP type package designed for use as a dual audio power amplifier in portable cassette players and radios.

Features:
- Supply Voltage Down To 1.8V
- Low Crossover Distortion
- Low Quiescent Current
- Bridge or Stereo Configuration

Absolute Maximum Ratings:
Supply Voltage, V_S 15V
Peak Output Current, I_O 1A
Total Power Dissipation, P_D
  T_A = +50°C 1.0W
  T_C = +50°C 1.4W
Operating Junction Temperature Range, T_J . . . . –40° to +150°C
Storage Temperature Range, T_{stg} . . . . –40° to +150°C
Thermal Resistance, Junction–to–Ambient, R_{thJA} . . . . 100°C/W
Thermal Resistance, Junction–to–Case (Pin4), R_{thJC} . . . . 70°C/W

Electrical Charactgeristics: (V_S = 6V, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Stereo						
Supply Voltage	V_S		1.8	–	15	V
Quiescent Output Voltage	V_O		–	2.7	–	V
		V_S = 3V	–	1.2	–	V
Quiescent Drain Current	I_D		–	6	9	mA
Input Bias Current	I_B		–	100	–	nA

Electrical Charactgeristics (Cont'd): (V_S = 6V, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Stereo (Cont'd)							
Output Power (Each Channel) (f = 1kHz, d = 10%)	P_O	R_L = 32Ω	V_S = 9V	–	300	–	mW
			V_S = 6V	90	120	–	mW
			V_S = 4.5V	–	60	–	mW
			V_S = 3V	15	20	–	mW
			V_S = 2V	–	5	–	mW
		R_L = 16Ω	V_S = 6V	170	220	–	mW
		R_L = 8Ω	V_S = 9V	–	1000	–	mW
			V_S = 6V	300	380	–	mW
		R_L = 4Ω	V_S = 6V	450	650	–	mW
			V_S = 4.5V	–	320	–	mW
			V_S = 3V	–	110	–	mW
Distortion (f = 1kHz)	d	R_L = 32Ω, P_O = 40mW		–	0.2	–	%
		R_L = 16Ω, P_O = 75mW		–	0.2	–	%
		R_L = 8Ω, P_O = 150mW		–	0.2	–	%
Closed Loop Voltage Gain	G_V	f = 1kHz		36	39	41	dB
Channel Balance	ΔG_V			–	–	±1	dB
Input Resistance	R_I	f = 1kHz		100	–	–	kΩ
Total Input Noise	e_N	R_S = 10kΩ	B = Curve A	–	2.0	–	μV
			B = 22Hz to 22kHz	–	2.5	–	μV
Supply Voltage Rejection	SVR	f = 100Hz, C1 = C2 = 100μF		24	30	–	dB
Channel Separation	C_S	f = 1kHz		–	50	–	dB
Bridge							
Supply Voltage	V_S			1.8	–	15	V
Quiescent Drain Current	I_D	R_L = ∞		–	6	9	mA
Output Offset Voltage (Between Outputs)	V_{OS}	R_L = 8Ω		–	–	±50	mV
Input Bias Current	I_B			–	100	–	nA
Output Power (f = 1kHz, d = 10%)	P_O	R_L = 32Ω	V_S = 9V	–	1000	–	mW
			V_S = 6V	320	400	–	mW
			V_S = 4.5V	–	200	–	mW
			V_S = 3V	50	65	–	mW
			V_S = 2V	–	8	–	mW
		R_L = 16Ω	V_S = 9V	–	2000	–	mW
			V_S = 6V	–	800	–	mW
			V_S = 3V	–	120	–	mW
		R_L = 8Ω	V_S = 6V	900	1350	–	mW
			V_S = 4.5V	–	700	–	mW
			V_S = 3V	–	220	–	mW
		R_L = 4Ω	V_S = 4.5V	–	1000	–	mW
			V_S = 3V	200	350	–	mW
			V_S = 2V	–	80	–	mW

Electrical Charactgeristics (Cont'd): (V_S = 6V, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Bridge (Cont'd)							
Distortion	d	R_L = 8Ω, P_O = 0.5W, f = 1kHz		–	0.2	–	%
Closed Loop Voltage Gain	G_V	f = 1kHz		–	39	–	dB
Input Resistance	R_I	f = 1kHz		100	–	–	kΩ
Total Input Noise	e_N	R_S = 10kΩ	B = Curve A	–	2.5	–	μV
			B = 22Hz to 22kHz	–	3.0	–	μV
Supply Voltage Rejection	SVR	f = 100Hz		–	40	–	dB
Power bandwidth (–3dB)	B	R_L = 8Ω, P_O = 1W		–	120	–	kHz

Pin Connection Diagram