ELECTRONICS, INC.
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NTE7088
Integrated Circuit
Audio Power Amplifier,
18 Watt BTL x 2 Channel

Description:

The NTE7088 is an integrated circuit in a 17–Lead Staggered SIP type package designed for car audio applications. This device has two built–in channels to reduce the characteristic difference betwee Left and Right channels. In addition, the functions of stand–by and muting, and a variety of protection circuits are included.

Features:

- Low Thermal Resistance
- High Power
- Low Distortion Ratio
- Low Noise
- Built–In Stand–by Function
- Built–In Muting Function
- Built–In Protection Circuits:
  Thermal Shutdown, Overvoltage, Out $\rightarrow V_{CC}$ short, Out $\rightarrow$ GND short, OUT – OUT short

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Peak Supply Voltage (0.2sec), V_{CC} surge 50V
DC Supply Voltage, V_{CC} DC 25V
Operating Supply Voltage, V_{CC} opr 18V
Output Current (Peak), I_O (peak) 9A
Power Dissipation, P_D 50W
Operating Temperature Range, T_{opr} . . . . . –30° to +85°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

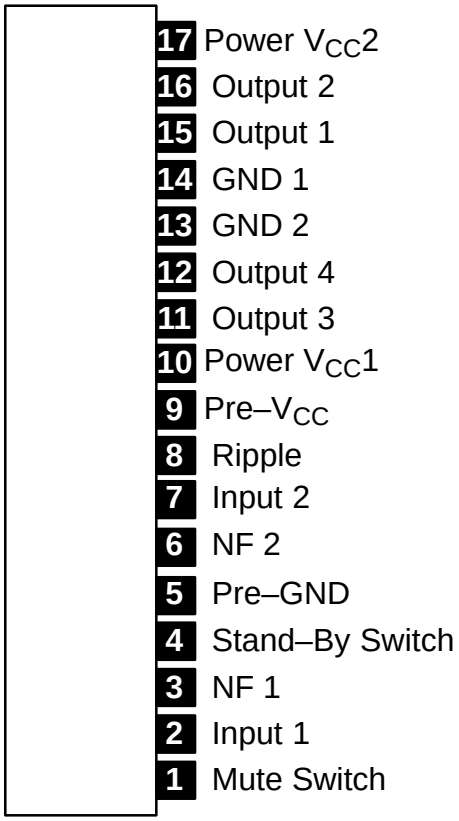
Electrical Characteristics: (V_{CC} = 13.2V, R_L = 4Ω, f = 1kHz, T_A = +25°C unless otherwise specified)

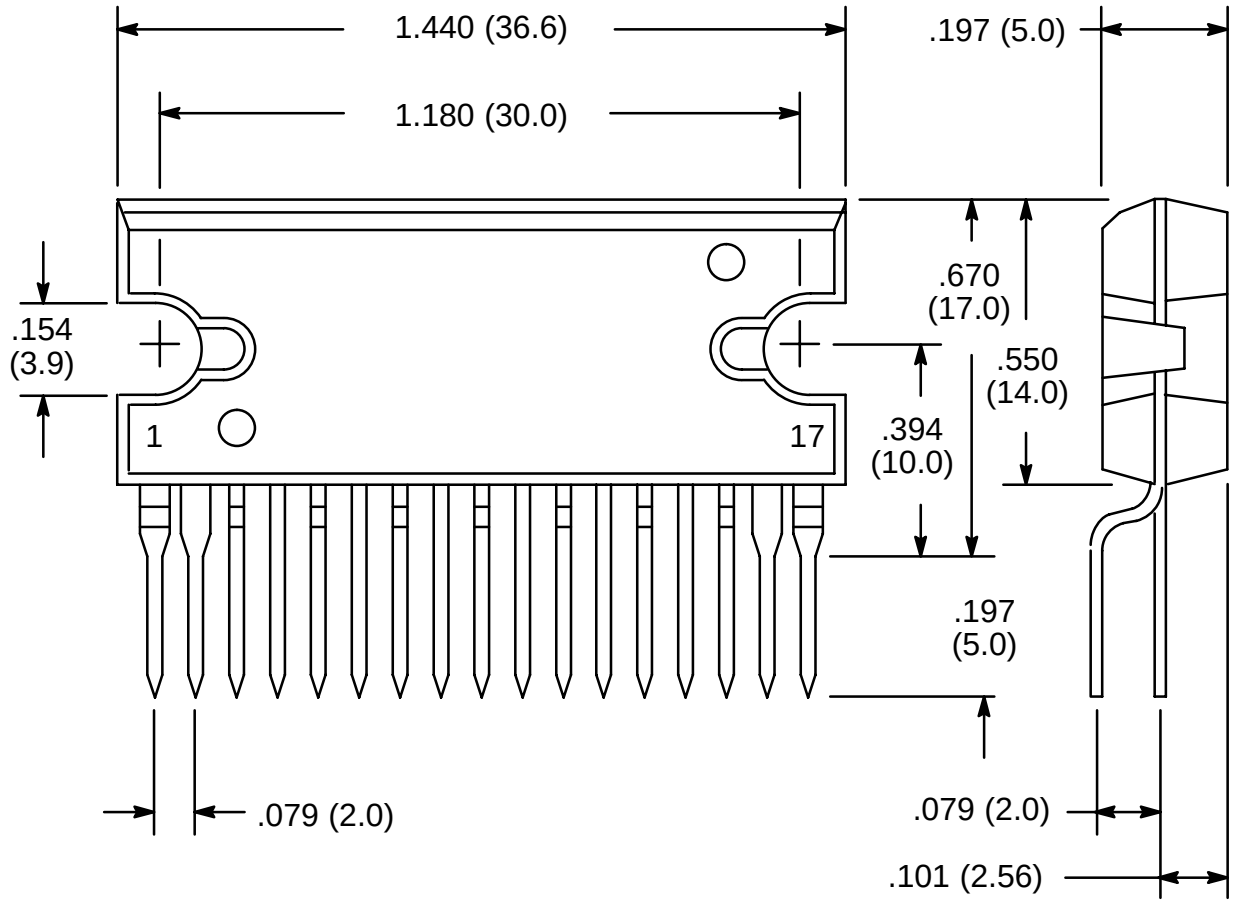
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Supply Current	I_{CCQ}	V_{IN} = 0	–	120	250	mA
Output Power	$P_{OUT(1)}$	V_{CC} = 14.4V, THD = 10%	–	18	–	W
	$P_{OUT(2)}$	THD = 10%	11	15	–	W

Electrical Characteristics (Cont'd): (V_{CC} = 13.2V, R_L = 4Ω, f = 1kHz, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Harmonic Distortion Ratio	THD	P_{OUT} = 1W	–	0.04	0.4	%
Voltage Gain	G_V		48	50	52	dB
Output Noise Voltage	V_{NO}	R_g = 0Ω, BW = 20Hz to 20kHz	–	0.3	0.7	nV_{rms}
Ripple Rejection Ratio	RR	f_{ripple} = 100Hz, R_g = 600Ω	40	54	–	dB
Input Resistance	R_{IN}		–	30	–	kΩ
Output Offset Voltage	V_{offset}	V_{IN} = 0	–0.3	0	+0.3	V
Current at Stand–by State	I_{SB}		–	1	10	μA
Crosstalk	CT	R_g = 600Ω, V_{OUT} = 0dBm	–	60	–	dB
Pin4 Control Voltage	V (SB)	Stand–by → OFF (Power → ON)	2.5	–	V_{CC}	V
Pin1 Control Voltage	V (MUTE)	Mute → ON (Power → OFF)	–	1.0	2.0	V

Pin Connection Diagram
(Front View)




1.440 (36.6)
1.180 (30.0)
.197 (5.0)
.670
(17.0)
.154
(3.9)
.550
(14.0)
.394
(10.0)
1
17
.197
(5.0)
.079 (2.0)
.079 (2.0)
.101 (2.56)