

## 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 between 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 → V<sub>CC</sub> short, Out → GND short, OUT – OUT short

### **Absolute Maximum Ratings:** (T<sub>A</sub> = +25°C unless otherwise specified)

Peak Supply Voltage (0.2sec), V <sub>CC</sub> surge	50V
DC Supply Voltage, V <sub>CC</sub> DC	25V
Operating Supply Voltage, V <sub>CC</sub> opr	18V
Output Current (Peak), I <sub>O</sub> (peak)	9A
Power Dissipation, P <sub>D</sub>	50W
Operating Temperature Range, T <sub>opr</sub>	–30° to +85°C
Storage Temperature Range, T <sub>stg</sub>	–55° to +150°C

### **Electrical Characteristics:** (V<sub>CC</sub> = 13.2V, R<sub>L</sub> = 4Ω, f = 1kHz, T<sub>A</sub> = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Supply Current	I <sub>CCQ</sub>	V <sub>IN</sub> = 0	–	120	250	mA
Output Power	P <sub>OUT(1)</sub>	V <sub>CC</sub> = 14.4V, THD = 10%	–	18	–	W
	P <sub>OUT(2)</sub>	THD = 10%	11	15	–	W

**Electrical Characteristics (Cont'd):** ( $V_{CC} = 13.2V$ ,  $R_L = 4\Omega$ ,  $f = 1kHz$ ,  $T_A = +25^\circ C$  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	$V_{NO}$	$R_g = 0\Omega$ , BW = 20Hz to 20kHz	–	0.3	0.7	$nV_{rms}$
Ripple Rejection Ratio	RR	$f_{ripple} = 100Hz$ , $R_g = 600\Omega$	40	54	–	dB
Input Resistance	$R_{IN}$		–	30	–	$k\Omega$
Output Offset Voltage	$V_{offset}$	$V_{IN} = 0$	–0.3	0	+0.3	V
Current at Stand-by State	$I_{SB}$		–	1	10	$\mu A$
Crosstalk	CT	$R_g = 600\Omega$ , $V_{OUT} = 0dBm$	–	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)



