

## NTE1155 Integrated Circuit Audio Power Amplifier, 5.8W

### **Description:**

The NTE1155 is an integrated circuit in a 10-Lead SIP type package designed for use as an audio power amplifier for car radio and car stereo applications

### **Features:**

- Output Power:  
 $P_{OUT} = 5.8W$  (Typ) at  $V_{CC} = 13.2V$ ,  $R_L = 4\Omega$ , THD = 10%  
 $P_{OUT} = 9.2W$  (Typ) at  $V_{CC} = 13.2V$ ,  $R_L = 2\Omega$ , THD = 10%
- Maximum Output Power:  
 $P_{OM} = 9.5W$  (Typ) at  $V_{CC} = 13.2V$ ,  $R_L = 4\Omega$
- Low Distortion:  
THD = 0.15% at  $P_{OUT} = 1W$ ,  $G_V = 55dB$   
THD = 0.07% at  $P_{OUT} = 1W$ ,  $G_V = 44dB$
- Wide Operating Supply Voltage Range:  $V_{CC} = 9V$  to  $18V$
- Low Noise
- Current Limiting for Short-Circuit Protection
- Built-In Thermal Shut-Down Circuit
- Built-In Surge Voltage protection Circuit

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

|                                                   |                               |
|---------------------------------------------------|-------------------------------|
| Operating Supply Voltage (Note 1), $V_{CC}$ ..... | 18V                           |
| Quiescent Supply Voltage, $V_{CCQ}$ .....         | 25V                           |
| Output Current (Peak), $I_{O(Peak)}$ .....        | 4.5A                          |
| Power Dissipation, $P_D$ .....                    | 7.5W                          |
| Operating Temperature Range, $T_{opr}$ .....      | $-20^\circ$ to $+75^\circ C$  |
| Storage Temperature Range, $T_{stg}$ .....        | $-55^\circ$ to $+150^\circ C$ |

Note 1. Minimum Operating Voltage is 9V.

**Electrical Characteristics:** ( $T_A = +25^{\circ}\text{C}$ ,  $V_{CC} = 12.5\text{V}$ ,  $R_L = 4\Omega$ ,  $R_g = 600\Omega$ ,  $R_f = 82\Omega$ ,  $f = 1\text{kHz}$  unless otherwise specified)

| Parameter                 | Symbol    | Test Conditions                                       | Min | Typ  | Max | Unit       |
|---------------------------|-----------|-------------------------------------------------------|-----|------|-----|------------|
| Quiescent Current         | $I_{CCQ}$ |                                                       | –   | –    | 60  | mA         |
|                           |           | $V_{CC} = 18\text{V}$                                 | –   | –    | 80  | mA         |
| Output Power              | $P_O$     | THD = 10%                                             | 4.5 | 5.0  | –   | W          |
|                           |           | $V_{CC} = 13.2\text{V}$ , THD = 10%                   | –   | 5.8  | –   | W          |
|                           |           | $V_{CC} = 13.2\text{V}$ , $R_L = 2\Omega$ , THD = 10% | –   | 9.2  | –   | W          |
| Maximum Output Power      | $P_{OM}$  | $V_{CC} = 13.2\text{V}$                               | –   | 9.5  | –   | W          |
| Total Harmonic Distortion | THD       | $P_{OUT} = 1\text{W}$                                 | –   | 0.15 | 1.0 | %          |
|                           |           | $P_{OUT} = 100\text{mW}$                              | –   | 0.2  | 1.0 | %          |
|                           |           | $P_{OUT} = 1\text{W}$ , $R_L = 2\Omega$               | –   | 0.25 | 1.0 | %          |
| Voltage Gain              | $G_V$     | $V_{IN} = 2.45\text{mV}_{rms}$                        | 52  | 55   | 58  | dB         |
| Input Resistance          | $R_{IN}$  | $V_{OUT} = 2\text{V}_{rms}$                           | 30  | 40   | –   | k $\Omega$ |
| Output Noise Voltage      | $V_{NO}$  | $R_g = 10\text{k}\Omega$ , BW = 50 to 20kHz           | –   | –    | 3.5 | mV         |

**Pin Connection Diagram**  
(Front View)

