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# NTE1655
# Integrated Circuit
# TV Stereo Decoder

**Description:**

The NTE1655 is a TV stereo decoder integrated circuit in a 16–Lead DIP type package designed for television stereo. An L–R output is provided to drive further audio processing.

**Features:**

- Low Impedance L + R and L – R Outputs
- Mono/Stereo Switching and Indication
- Low Distortion – 0.10% typical

**Applications:**

- Stereo Television Sets
- Stereo Adapters
- Cable Television

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

Power Supply Voltage . . . . . 16V
Power Dissipation . . . . . 1800mW
Derate Above 25°C . . . . . 15mW/°C
Operating Ambient Temperature Range . . . . . –40° to +85°C
Storage Temperature Range . . . . . –65° to +150°C
Lamp Drive Voltage Max Voltage at Pin7 with Lamp “Off” . . . . . 16V
Lamp Current . . . . . 100mA

**Electrical Characteristics:** ($T_A$ = +25°C, $V_{CC}$ = 12V unless otherwise specified)

| Parameter | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| **DC** ($V_{IN}$ = 0) | | | | | |
| Supply Current | $V_{CC}$ = 16V | 15.0 | 33.5 | 50.0 | mA |
| Output Voltage | Pin4 | 1.7 | 3.5 | 5.0 | V |
| | Pin5 | 1.7 | 3.8 | 5.0 | V |
| Output Impedance | Pin4, Pin5 | – | 100 | 300 | W |
| Lamp Leakage | Lamp OFF, Pin7 Voltage = 16V | – | – | 0.1 | mA |
| Lamp Saturation Voltage | Lamp ON, Pin7 Current = 100mA | – | – | 2.0 | V |

**Electrical Characteristics (Cont'd):** ($T_A$ = +25°C, $V_{CC}$ = 12V unless otherwise specified)

| Parameter | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| **Audio** (Composite signal with 38kHzsubcarrier and 10% 19kHz pilot, $f_{mod}$ = 1kHz. Adjust P1 for 19kHz ±10Hz. | | | | | |
| L + R Channel Gain | $V_{IN}$ = 2.5$V_{P-P}$ L = R, Pilot OFF, Pin4 | 0.8 | 1.0 | 1.2 | |
| L + R Channel THD | $V_{IN}$ = 2.5$V_{P-P}$ L = R, Pilot OFF, Pin4 | – | 0.1 | 1.0 | % |
| Gain Ratio, L + R Channel to L – R Channel | $V_{IN}$ = 2.5$V_{P-P}$, L Only | –2.0 | 0.0 | 2.0 | dB |
| Supply Rejection | 100$mV_{rms}$, 1kHz ON Supply, $V_{IN}$ = 0 | 30 | 60 | – | dB |
| DC Output Shift, Mono–to–Stereo | Pilot OFF to ON, Pin4, Pin5 | – | – | ±20 | mV |
| Input Impedance | Pin1 | 15 | 50 | 150 | k |
| **PLL** | | | | | |
| Pilot Level for Lamp ON | | 12 | – | 20 | mV |
| Pilot Level for Lamp OFF | | 3 | – | 10 | mV |
| Capture Range | Pilot = 25$mV_{rms}$ | ±0.5 | – | – | % |

**Pin Connection Diagram**