

# TEA2025

# 2.5W \* 2 Audio amplifier

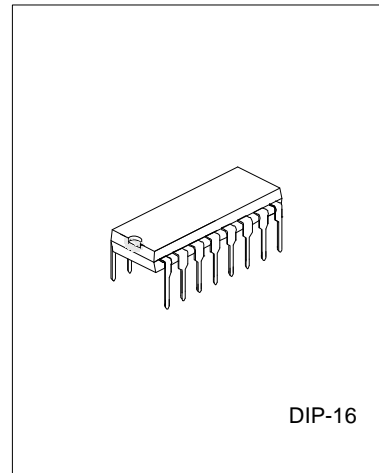
## STEREO AUDIO AMPLIFIER

### DESCRIPTION

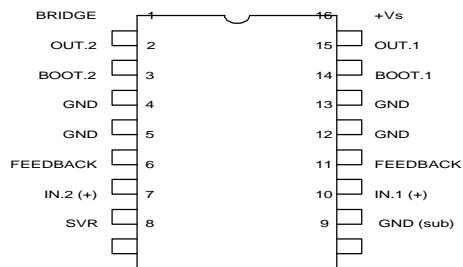
The BM TEA2025 is a monolithic integrated audio amplifier in a 16-pin plastic dual in line package. It is designed for portable cassette players and radios.

### FEATURES

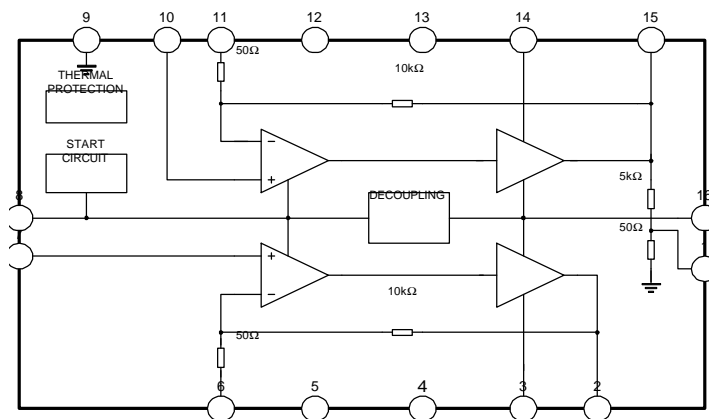
- \*Working Voltage down to 3V
- \*Few External components
- \*High Channel isolation
- \*Voltage gain up to 45dB(Adjustable with external resistor)
- \*Soft clipping
- \*Internal Thermal protection



### PIN CONFIGURATIONS



### BLOCK DIAGRAM



## ABSOLUTE MAXIMUM RATINGS

| PARAMETER            | SYMBOL | VALUE      | UNIT |
|----------------------|--------|------------|------|
| Supply Voltage       | Vs     | 15         | V    |
| Output Peak Current  | Io     | 1.5        | A    |
| Junction Temperature | Tj     | 150        | °C   |
| Storage Temperature  | Tstg   | -40 ~ +150 | °C   |

## ELECTRICAL CHARACTERISTICS (Ta=25°C, Vcc=9V, Stereo, Unless otherwise specified)

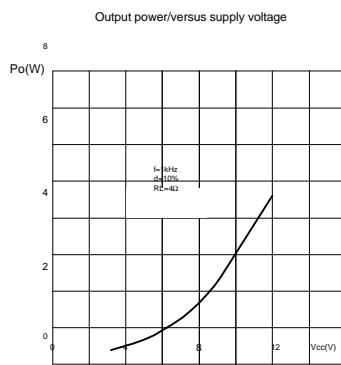
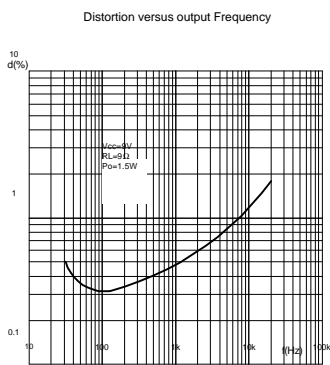
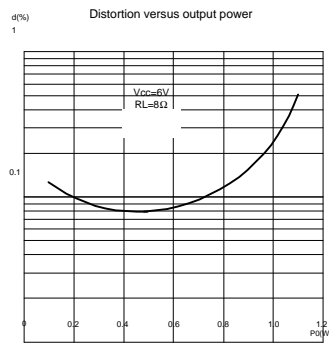
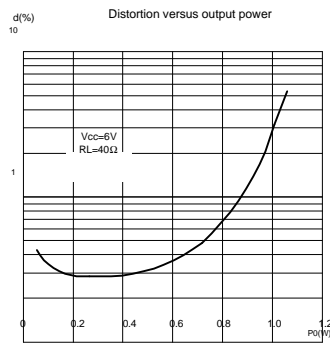
| PARAMETER                | SYMBOL | TEST CONDITIONS   | MIN | TYP        | MAX    | UNIT |
|--------------------------|--------|---|-----|------------|--------|------|
| Supply Voltage           | Vs     |   | 3   |            | 12     | V    |
| Quiescent Current        | Iq     |   |     | 40         | 50     | mA   |
| Quiescent output voltage | Vo     |   |     | 4.5        |        | V    |
| Voltage gain             | Av     | Stereo  | 43  | 45         | 47     | dB   |
|                          |        | Bridge  | 49  | 51         | 53     |      |
| Voltage gain difference  | ΔAv    |   |     |            | +1     | dB   |
| Input impedance          | Ri     |   |     | 30         |        | kΩ   |
| Output Power             | Po     | f=1kHz; d=10%<br>Stereo per channel<br>Vcc=9V; RL=4Ω<br>RL=8Ω | 1.7 | 2.3<br>1.3 |        |      |
|                          |        | Vcc=6V; RL=4Ω<br>RL=8Ω  | 0.7 | 1<br>0.6   |        | W    |
|                          |        | Vcc=3V; RL=4Ω   |     | 0.1        |        |      |
|                          |        | Bridge<br>Vcc=9V; RL=8Ω                                       |     | 4.7        |        |      |
|                          |        | Vcc=6V; RL=4Ω   |     | 2.8        |        |      |
| Distortion               | d      | Vcc=9V; RL=4Ω<br>f=1kHz; Po=250mW<br>Stereo                   |     | 0.3        | 1.5    | %    |
|                          |        | Bridge  |     | 0.5        |        |      |
| Supply voltage Rejection | SVR    | Rg=0; Av=45dB<br>Vripple=150mVRMS<br>Fripple=100Hz            | 40  | 46         |        | dB   |
| Input noise Voltage      | Vn     | Av=200<br>Bandwidth:<br>20Hz to 20kHz<br>Rg=0<br>Rg=10kΩ      |     | 1.5<br>3   | 3<br>6 | μV   |
| Cross-Talk               | C.T.   | Rg=10kΩ;<br>f=1kHz; RL=4Ω<br>Po=1W                            | 40  | 55         |        | dB   |

THERMAL RESISTANCE

Rth(j-c):Junction to case thermal resistance 15°C/W

Rth(j-a):Junction to ambient thermal resistance 60°C/W

TYPICAL PERFORMANCE CHARACTERISTICS



APPLICATION CIRCUIT

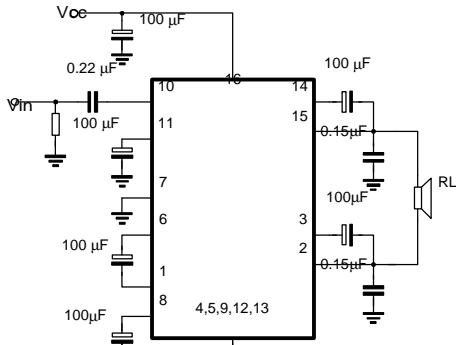


Fig. 5 Bridge Application

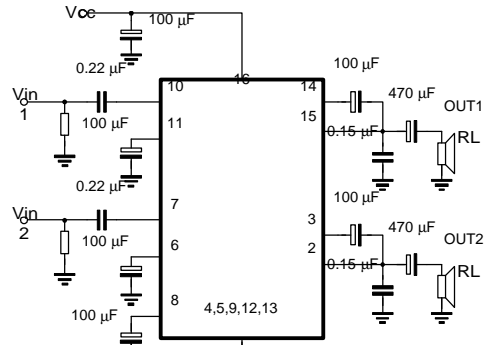


Fig.6 Stereo Application

SCHEMATIC DIAGRAM

