

# TDA7801: Digital-input car-audio power amplifier

Outstanding audio performances and built-in diagnostics for automotive audio systems



With an integrated DAC and a powerful MOSFET amplifier, the TDA7801 provides unprecedented audio performances. The on-chip digital diagnostic processor and I<sup>2</sup>C bus add all the intelligence and configurability that are needed today in automotive systems.

The advanced mixed technology used makes the TDA7801 an extremely robust product, even in the most demanding environments.

The TDA7801 therefore addresses the stringent requirements of the automotive entertainment market, while enhancing the listening experience and contributing to system reliability.

## Key features

- Advanced 6th generation BCD (bipolar-CMOS-DMOS) technology
- Integrated 110 dB DAC
- On-chip digital diagnostics processor (misconnections, open loads, offset, thermal warnings)
- High output power capability: up to 4 x 45 W
- Complete I<sup>2</sup>C bus control (mute configuration, gain setting, diagnostics setup, sampling frequency, distortion detector level)
- Full fault protection
- Single-channel independent short-circuit protection
- Available in a wide selection of packages, both SMD and through-hole

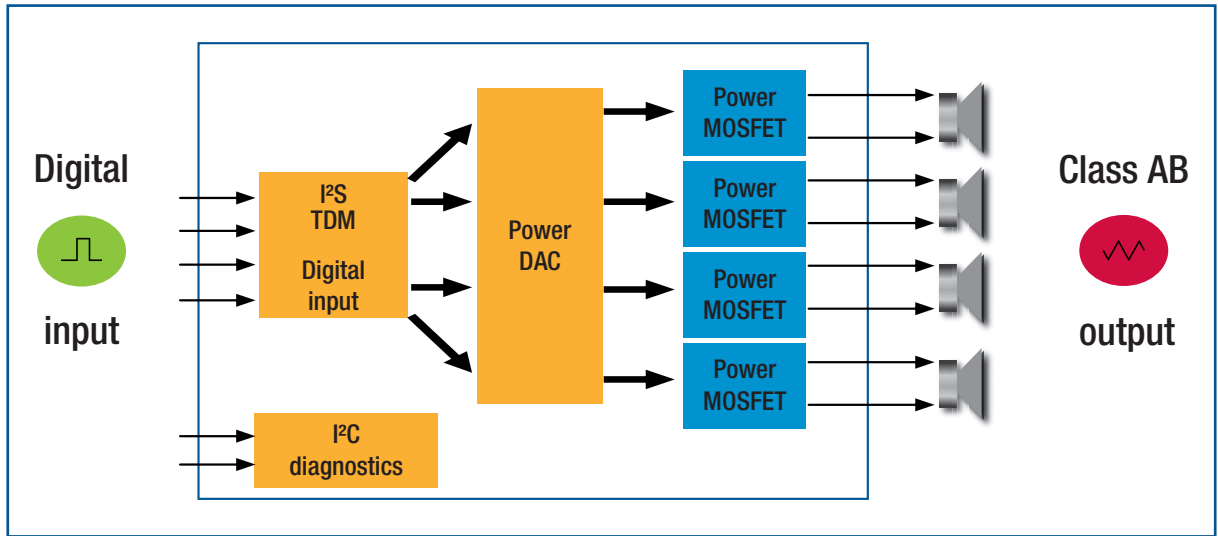
## Key benefits

- Direct connection to digital sound processors
- Very high level audio performances
- Very high noise immunity
- System simplification
- Lower number of external components
- Extreme robustness

## Targeted applications

- Automotive head units
- Automotive sound systems
- Digital players

## TDA7801 block diagram



## Package options

The TDA7801 can be purchased in three different package configurations:

- standard through-hole Flexiwatt (either vertical or horizontal)
- PowerSO-36 (slug-up)
- SMD Flexiwatt (slug-up)

allowing the implementation of either manual insertion or automated pick-and-place.

Specifically, SMD Flexiwatt is a new package developed by ST: its resin is compatible with reflow soldering and its leads are gull-wing shaped to allow true surface-mount usage. On the other hand, it still has the same shape and body size as a standard Flexiwatt, thus maintaining its great thermal performances. SMD Flexiwatt and PowerSO can both be supplied in tape and reel.



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