

Product brief

MA2304DNS and MA2304PNS

2 x 37 W, inductorless multilevel class D amplifier family

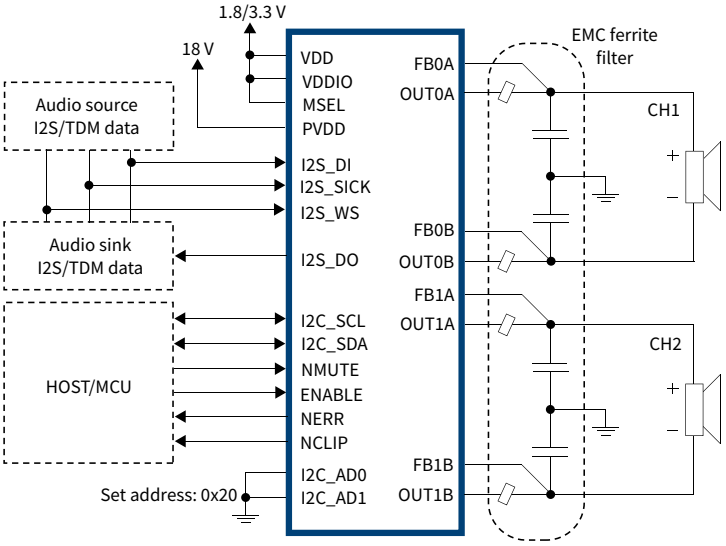
The MA2304DNS and MA2304PNS are a family of 2 × 37 W audio amplifiers that feature the MERUS™ multilevel switching amplifier technology which enables unmatched power efficiency at both low and high output power.

Multilevel switching also relaxes EMC requirements and enables inductorless applications with lower cost. A high order internal feedback loop ensures low THD and high PSRR for excellent audio performance.

The integrated DSP in the MA2304DNS is highly configurable and can be used to correct for imperfections in real speaker applications with e.g. equalization, limiting and more. The MA2304PNS offers a simpler volume control and limiter, for systems where an application/connectivity processor does the audio processing.

The ultra low idle power consumption is in a class of its own and makes the MA2304 family ideal in battery powered speaker applications with extended battery life and/or reduced battery cell cost. 90 % Improvements in idle current consumption can be seen in comparison to previous generation devices from competitors.

In mains powered multi channel applications, the reduced and scalable EMI performance, enables otherwise impossible industrial designs, without the necessity for a heatsink.



Key features

5 Level MERUS™ multilevel switching technology

- Ultra low idle power consumption: 52 mW (LPC mode).
- High efficiency at low output power: > 80 %, 2 × 1 W, 8 Ω

High Fidelity Audio Performance

- BTL rated output: 2 × 37 W, 18 V, 4 Ω, 10 % THD.
- PBTL rated output: 1 × 74 W, 18 V, 2 Ω, 10 % THD.
- Dynamic range: 105 dB.
- Output noise: 52 µVrms
- THD+N: 0.03 %, 1 W, 1 kHz

Target applications

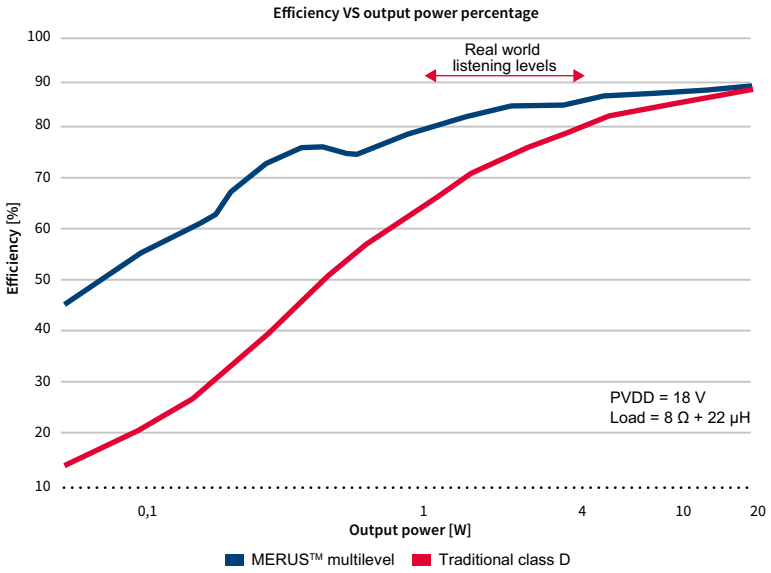
- Battery powered speakers
- Bluetooth/wireless/smart speakers and soundbars
- Conference speakers
- Multi channel/multi room audio systems



www.infineon.com/merus-ma2304xn

Efficiency and audio performance

A design aimed to last at least 40 % longer in real world



Other amplifiers on the market use maximum volume to measure their best efficiencies, but in the real world, users rarely listen at ear-bleeding volumes. Infineon's MERUS™ audio's design philosophy address the real world use cases, addressing system efficiency where it really counts – at real world listening levels as well as at max power! Today's battery powered audio systems can achieve a minimum of 40% extended battery life compared to previous generation technology adopted by the competition. Use that difference in your next generation system to shrink the battery, lower the weight, and spend less in your system. Contact your local Infineon representive, or your distributor to find out more about how the new MA2304 can improve the sound, improve the battery life and ease the design in process for your next generation systems.

Part numbers and features

Part number	Differentiating feature
MA2304DNS	Configurable DSP with advanced algorithms
MA2304PNS	Digital Input Class D with Volume Control and Limiter

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