Global Audio Class D Amplifier Market Size, Share, Development, Growth and Demand Forecast to 2022

Description:

Global Audio Class D Amplifier Market Size, Share, Development, Growth and Demand Forecast to 2022 - Industry Insights by Market Type (OEM, Aftermarket), by Application (Television, Portable Music Devices, Automotive Audio System, Others), by Product Type (Mono-Channel, 2-Channel, 4-Channel, 6-Channel, Others)

Audio class D amplifier refers to the electronic device that amplifies the amplitude of sound signals. An audio class D amplifier amplifies low amplitude sound signals to a level, which is suitable for driving subwoofer or loudspeakers. Class D audio amplifiers offer numerous advantages over its counterparts, in terms of space efficiency, heat dissipation and energy efficiency, which is an important consideration in design of portable music devices. Moreover, unlike earlier phase of audio class D amplifier, the reliability of audio class D amplifier in low power audio devices application is no longer a hindrance for its growth, owing to the technical advancement in the power switching and filter technology.

The growing penetration of audio class D amplifier in the multi-channel AV receivers, smart phones, portable hearing aids, LED, LCD and Plasma TV, and premium automotive audio systems is expected to drive the growth of the audio class D amplifier market during the forecast period. The filter less design of audio class D amplifier has increased its demand in high power audio applications, such as public address (PA) system. Unlike linear audio amplifiers such as class AB amplifiers, the class D amplifiers are switching amplifier due to which the output of audio class D has to be passed through a low pass filter, which in turn limits its growth in high power audio application. However, the advent of filter less audio class D amplifier has solved this problem up to a large extent. The filter less audio class D amplifiers has low losses in the load, owing to the short pulses and the change in voltage as (Voltage Drain Drain) VDD instead of 2*VDD. With the increase in output power, the ripple current becomes larger. The ripple current can be further filtered with a LC filter for higher efficiency; however in most high power applications, the LC filter is not needed.

The use of audio class D amplifier in flat panel television provides increased audio power of around 20 watts per channel. It also offers less noise, and lower distortion, as compared to other analog audio amplifiers, such as class AB audio amplifier. During the forecast period, the class D audio amplifier in flat-panel TVs is expected to become ever more main stream. Flat panel TV market has become highly competitive in recent years. In order to gain competitive advantage, TV manufacturers need to differentiate their product offering, in comparison to their competitors. The functional benefits of audio class D amplifiers, such as small size, strong output, low heat dissipation and high sound quality is expected to offers advantage to both consumers and OEMs.

Despite the recent advancement in audio class D amplifier technology, the implementation of audio class D amplifier mobile phone and car radio system applications has remained as a major challenge for manufacturers. The speculation over the output filter design (whether to include or exclude), along with issues regarding THD+N management of audio class D amplifier in mobile application is limiting its growing application in mobile audio devices.

Some of the major companies operating in the global audio class D amplifier market include STMicroelectronics NV, Texas Instruments Incorporated, Analog Devices Inc., ON Semiconductor Corporation, Infineon Technologies AG, Cirrus Logic Inc., ROHM Co. Ltd. (ROHM Semiconductor), NXP Semiconductors N.V., Monolithic Power Systems Inc. and Intersil Corporation.

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