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

Description:

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.

Contents:

1. Research Scope & Methodology
   1.1 Market Definition
   1.2 Market Scope
   1.2.1 Market Breakdown by Market Type
   1.2.2 Market Breakdown by Application
   1.2.3 Market Breakdown by Product Type
   1.2.4 Market Breakdown by Geography
   1.3 Research Methodology and Sources
2. Executive Summary
2.1 Key Findings
2.2 Research Summary

3. Market Outlook
3.1 Introduction
3.1.1 Value Chain Analysis
3.2 Trends in The Global Audio Class D Amplifier Market
3.2.1 Increasing Demand of Filterless Class D Audio Amplifier
3.3 Opportunities in The Global Audio Class D Amplifier Market
3.3.1 Growing Demand of Class D Audio Amplifiers in Mobile Phones
3.4 Factors Driving The Growth of Market and its Impact on Market Forecast
3.4.1 High-Efficiency of Class D Audio Amplifiers
3.4.2 Technical Advancement in Class D Audio Amplifier
3.4.3 Impact Analysis of Drivers on Market Forecast
3.5 Factors Hindering The Growth of Market and its Impact on Market Forecast
3.5.1 Higher Electromagnetic Interference (Emi) of Audio Class D Amplifiers
3.5.2 System Level Design Issues for Class D Amplifiers
3.5.3 Impact Analysis of Restraints on Market Forecast

4.1 Global Audio Class D Amplifier Market, by Market Type
4.1.1 Oem
4.1.2 Aftermarket
4.2 Global Audio Class D Amplifier Market, by Product Type
4.2.1 Mono Channel
4.2.2 2-Channel
4.2.3 4-Channel
4.2.4 6-Channel
4.2.5 Others
4.3 Global Audio Class D Amplifier Market, by Application
4.3.1 Television
4.3.2 Portable Music Devices
4.3.3 Automotive Audio System
4.3.4 Others
4.4 Global Audio Class D Amplifier Market, by Input Mode
4.5 Global Audio Class D Amplifier Market, by Region

5. Global Audio Class D Amplifier Market, by Geography
5.1 North America Audio Class D Amplifier Market
5.1.1 North America Audio Class D Amplifier Market, by Country
5.1.2 North America Audio Class D Amplifier Market, by Market Type
5.1.3 North America Audio Class D Amplifier Market, by Product Type
5.1.4 North America Audio Class D Amplifier Market, by Application
5.1.4.1 North America Audio Class D Amplifier Market for Automotive Audio System, by Market Type
5.2 Europe Audio Class D Amplifier Market
5.2.1 Europe Audio Class D Amplifier Market, by Country
5.2.2 Europe Audio Class D Amplifier Market, by Market Type
5.2.3 Europe Audio Class D Amplifier Market, by Product Type
5.2.4 Europe Audio Class D Amplifier Market, by Application
5.2.4.1 Europe Audio Class D Amplifier Market in Automotive Audio System, by Market Type
5.3 Asia-Pacific Audio Class D Amplifier Market
5.3.1 Asia-Pacific Audio Class D Amplifier Market, by Country
5.3.2 Asia-Pacific Audio Class D Amplifier, by Market Type
5.3.3 Asia-Pacific Audio Class D Amplifier Market, by Product Type
5.3.4 Asia-Pacific Audio Class D Amplifier Market, by Application
5.3.4.1 Asia-Pacific Audio Class D Amplifier Market in Automotive Audio System, by Market Type
5.4 Rest of The World (Row) Audio Class D Amplifier Market
5.4.1 RoW Audio Class D Amplifier Market, by Country
5.4.2 RoW Audio Class D Amplifier Market, by Market Type
5.4.3 RoW Audio Class D Amplifier Market, by Product Type
5.4.4 RoW Audio Class D Amplifier Market, by Application
5.4.4.1 RoW Audio Class D Amplifier Market in Automotive Audio System, by Market Type

6. Competitive Positioning and Market Share Analysis
6.1 Porter's Five Forces of Competitive Position Analysis
6.1.1 Bargaining Power of Buyers
6.1.2 Bargaining Power of Suppliers
6.1.3 Threat of New Entrants
6.1.4 Intensity of Rivalry
6.1.5 Threat of Substitutes
6.2 Market Share Analysis of Major Players

7. Company Profiles and Strategic Developments
7.1 Key Company Profiles
7.1.1 Stmicroelectronics Nv
7.1.1.1 Business Overview
7.1.1.2 Product and Service Offerings
7.1.2 Texas Instruments Incorporated
7.1.2.1 Business Overview
7.1.2.2 Product and Service Offerings
7.1.3 Analog Devices, Inc.
7.1.3.1 Business Overview
7.1.3.2 Product and Service Offerings
7.1.4 on Semiconductor Corporation
7.1.4.1 Business Overview
7.1.4.2 Product and Service Offerings
7.1.5 Infineon Technologies Ag
7.1.5.1 Business Overview
7.1.5.2 Product and Service Offerings
7.1.6 Cirrus Logic Inc.
7.1.6.1 Business Overview
7.1.6.2 Product and Service Offerings
7.1.7 Rohm Co., Ltd. (Rohm Semiconductor)
7.1.7.1 Business Overview
7.1.7.2 Product and Service Offerings
7.1.8 NXP Semiconductors N.V.
7.1.8.1 Business Overview
7.1.8.2 Product and Service Offerings
7.1.9 Monolithic Power Systems, Inc.
7.1.9.1 Business Overview
7.1.9.2 Product and Service Offerings
7.1.10 Intersil Corporation
7.1.10.1 Business Overview
7.1.10.2 Product and Service Offerings
7.2 Strategic Developments in The Global Audio Class D Amplifier Market
7.2.1 Merger and Acquisition
7.2.2 Facility Expansion
7.2.3 Product Launch and Development
7.2.4 Others

8. Appendix
8.1 List of Abbreviations

List of Tables
Table 1 Specific Primary and Secondary Sources Used for this Publication
Table 2 Global Audio Class D Amplifier Market Snapshot
Table 3 Efficiency Analysis of Class Ab Audio Amplifier and Class D Audio Amplifier
Table 4 Drivers for The Market: Impact Analysis
Table 5 Restraints for The Market: Impact Analysis
Table 6 Global Audio Class D Amplifier Market, by Market Type, $M (2012 - 2015)
Table 7 Global Audio Class D Amplifier Market, by Market Type, $M (2016 - 2022)
Table 8 Global Audio Class D Amplifier Market, by Product Type, $M (2012 - 2015)
Table 9 Global Audio Class D Amplifier Market, by Product Type, $M (2016 - 2022)
Table 10 Global Audio Class D Amplifier Market, by Application, $M (2012 - 2015)
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Global Audio Class D Amplifier Market, by Application, $M (2016 - 2022)</td>
</tr>
<tr>
<td>12</td>
<td>Global Audio Class D Amplifier Market for Automotive Audio System, by Market Type, $M 2012 - 2015</td>
</tr>
<tr>
<td>13</td>
<td>Global Audio Class D Amplifier Market for Automotive Audio System, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>15</td>
<td>Global Audio Class D Amplifier Market for Automotive Audio System, in Top Five Countries, $M (2016 - 2022)</td>
</tr>
<tr>
<td>16</td>
<td>Global Audio Class D Amplifier Market, by Input Mode, $M (2012 - 2015)</td>
</tr>
<tr>
<td>17</td>
<td>Global Audio Class D Amplifier Market, by Input Mode, $M (2016 - 2022)</td>
</tr>
<tr>
<td>18</td>
<td>Global Audio Class D Amplifier Market, by Region, $M (2012 - 2015)</td>
</tr>
<tr>
<td>19</td>
<td>Global Audio Class D Amplifier Market, by Region, $M (2016 - 2022)</td>
</tr>
<tr>
<td>22</td>
<td>North America Audio Class D Amplifier Market, by Market Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>23</td>
<td>North America Audio Class D Amplifier Market, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>24</td>
<td>North America Audio Class D Amplifier Market, by Product Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>25</td>
<td>North America Audio Class D Amplifier Market, by Product Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>27</td>
<td>North America Audio Class D Amplifier Market, by Application, $M (2016 - 2022)</td>
</tr>
<tr>
<td>29</td>
<td>North America Audio Class D Amplifier Market for Automotive Audio System, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>31</td>
<td>Europe Audio Class D Amplifier Market, by Country, $M (2016 - 2022)</td>
</tr>
<tr>
<td>32</td>
<td>Europe Audio Class D Amplifier Market, by Market Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>33</td>
<td>Europe Audio Class D Amplifier Market, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>34</td>
<td>Europe Audio Class D Amplifier Market, by Product Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>35</td>
<td>Europe Audio Class D Amplifier Market, by Product Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>36</td>
<td>Europe Audio Class D Amplifier Market, by Application, $M (2012 - 2015)</td>
</tr>
<tr>
<td>37</td>
<td>Europe Audio Class D Amplifier Market, by Application, $M (2016 - 2022)</td>
</tr>
<tr>
<td>38</td>
<td>Europe Audio Class D Amplifier Market in Automotive Audio System, by Market Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>39</td>
<td>Europe Audio Class D Amplifier Market in Automotive Audio System, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>41</td>
<td>Asia-Pacific Audio Class D Amplifier Market, by Country, $M (2016 - 2022)</td>
</tr>
<tr>
<td>42</td>
<td>Asia-Pacific Audio Class D Amplifier Market, by Market Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>43</td>
<td>Asia-Pacific Audio Class D Amplifier Market, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>44</td>
<td>Asia-Pacific Audio Class D Amplifier Market, by Product Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>45</td>
<td>Asia-Pacific Audio Class D Amplifier Market, by Product Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>46</td>
<td>Asia-Pacific Audio Class D Amplifier Market, by Application, $M (2012 - 2015)</td>
</tr>
<tr>
<td>47</td>
<td>Asia-Pacific Audio Class D Amplifier Market, by Application, $M (2016 - 2022)</td>
</tr>
<tr>
<td>49</td>
<td>Asia-Pacific Audio Class D Amplifier Market for Automotive Audio System, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>51</td>
<td>RoW Audio Class D Amplifier Market, by Country, $M (2016 - 2022)</td>
</tr>
<tr>
<td>52</td>
<td>RoW Audio Class D Amplifier Market, by Market Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>53</td>
<td>RoW Audio Class D Amplifier Market, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>54</td>
<td>RoW Audio Class D Amplifier Market, by Product Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>55</td>
<td>RoW Audio Class D Amplifier Market, by Product Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>56</td>
<td>RoW Audio Class D Amplifier Market, by Application, $M (2012 - 2015)</td>
</tr>
<tr>
<td>57</td>
<td>RoW Audio Class D Amplifier Market, by Application, $M (2016 - 2022)</td>
</tr>
<tr>
<td>58</td>
<td>RoW Audio Class D Amplifier Market for Automotive Audio System, by Market Type, $M (2012 - 2015)</td>
</tr>
<tr>
<td>59</td>
<td>RoW Audio Class D Amplifier Market for Automotive Audio System, by Market Type, $M (2016 - 2022)</td>
</tr>
<tr>
<td>60</td>
<td>Products of Stmicroelectronics Nv</td>
</tr>
<tr>
<td>61</td>
<td>Products of CirrUs Logic Inc.</td>
</tr>
</tbody>
</table>
List of Figures

Fig 1 Research Scope for Global Audio Class D Amplifier Market
Fig 2 Research Methodology for Global Audio Class D Amplifier Market
Fig 3 Audio Class D Amplifier Industry Value Chain
Fig 4 Global Audio Class D Amplifier Market Size, by Market Type, $M (2012 - 2022)
Fig 5 Global Audio Class D Amplifier Market Size, by Product Type, $M (2012 - 2022)
Fig 6 Global Audio Class D Amplifier Market Size, by Application, $M (2012 - 2022)
Fig 7 Global Audio Class D Amplifier Market Size, by Region, $M (2012 - 2022)
Fig 8 Global Audio Class D Amplifier Market in Major Countries
Fig 9 North America Audio Class D Amplifier Market Size, by Country (2012 - 2022)
Fig 10 North America Audio Class D Amplifier Market Size, by Market Type, $M (2012 - 2022)
Fig 11 North America Audio Class D Amplifier Market Size, by Product Type, $M (2012 - 2022)
Fig 12 North America Audio Class D Amplifier Market Size, by Application, $M (2012 - 2022)
Fig 13 Europe Audio Class D Amplifier Market Size, by Country (2012 - 2022)
Fig 14 Europe Audio Class D Amplifier Market Size, by Market Type, $M (2012 - 2022)
Fig 15 Europe Audio Class D Amplifier Market Size, by Product Type, $M (2012 - 2022)
Fig 16 Europe Audio Class D Amplifier Market Size, by Application, $M (2012 - 2022)
Fig 17 Sia-Pacific Audio Class D Amplifier Market Size, by Country (2012 - 2022)
Fig 18 Asia-Pacific Audio Class D Amplifier Market Size, by Market Type, $M (2012 - 2022)
Fig 19 Asia-Pacific Audio Class D Amplifier Market Size, by Product Type, $M (2012 - 2022)
Fig 20 Asia-Pacific Audio Class D Amplifier Market Size, by Application, $M (2012 - 2022)
Fig 21 RoW Audio Class D Amplifier Market Size, by Country (2012 - 2022)
Fig 22 RoW Audio Class D Amplifier Market Size, by Market Type, $M (2012 - 2022)
Fig 23 RoW Audio Class D Amplifier Market Size, by Product Type, $M (2012 - 2022)
Fig 24 RoW Audio Class D Amplifier Market Size, by Application, $M (2012 - 2022)
Fig 25 Porter's Five Forces of Competitive Position Analysis
Fig 26 Market Share Analysis of Key Players in The Global Audio Class D Amplifier Market, Based on Value Sales (2014)

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