

# **Super Junction MOSFET Market by FAB Technology (Multiple-Epitaxy, Deep-Trench), Packaging Technology Material (Substrate, Transition Layer, Electrode), Application (Power Supply, Display, Lighting, EV/HEV, Industrial) & by Geography- Global Trends & Forecasts to 2013 - 2020**

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## **Abstracts**

Super junction MOSFET devices currently shares only 2% to 3% of the total power semiconductor device market, which is a \$31 billion market. With the popularity and technological innovations in the fabrication and packaging of super junction devices, the scenario in coming five years would be different. The growth of SJ-MOSFET is estimated to be 13.6% from 2013 to 2020. This escalation is developing the need to analyze, review and to forecast the growth of SJ-MOSFET market. High ON-state resistance, better performance, low heat dissipation, high switching frequency and low cost are some factors that are increasing the popularity of SJ-MOSFET's amongst the manufacturers.

The research published on SJ-MOSFET covers significant fabrication methods such as Multiple-Epitaxy and Deep-Trench that are helping to have cheaper and simpler manufacturing of SJ-MOSFET's. New packaging methods are delivering high compactness and low heat dissipation property. There are several important trends which have been driving the technological innovations in the power semiconductor industry since its early days, and which, directly or indirectly, are driving the SJ-MOSFET's market, currently. The first and principal trend that is driving the market is the size reduction of the SJ-MOSFET as compared to the planar MOSFET's Power savings, high switching frequency are the other technological trends that still remain as strong undercurrents.

The study elucidates the situation of SJ-MOSFET in electric vehicles and hybrid electric vehicles markets, and shows application market of SJ MOSFET in DC/DC converters, chargers, industrial, display and lighting applications with accurate market metrics. The study clarifies that the power supply applications are the highest market sharing and growing application market of SJ-MOSFET in 2013, and no doubt it will continue its growth till 2020.

Lastly, the SJ-MOSFET research study is segmented on the basis of geography in to North Americas, Europe, the Asia-Pacific (APAC), and Rest of the World (ROW). Among these, Germany, China, Japan, and U.S. are the highest market sharing countries in SJ-MOSFET market.

Apart from the market segmentation, analysis and the respective data, the report also includes qualitative analysis of various market dynamics such as, drivers, restraints, opportunities, burning issues, and winning imperatives. The report includes profiles of prominent market players in the display materials segment and display manufacturers with their respective company market share analysis. The study analyzes the new strategies and technological roadmaps, provides up-to-date market metrics, profile the different segments of the SJ MOSFET market and situation analysis of SJ-MOSFET technology against current and future competition.

Major companies that are covered in this report are Infineon Technologies AG (Germany), STMicroelectronics N.V. (Switzerland), Toshiba Corporation (Japan), Vishay Intertechnology, Inc. (U.S.), Alpha & Omega Semiconductor Ltd. (U.S.), Fairchild Semiconductor International, Inc. (U.S.), Efficient Power Conversion Corporation (U.S.), Fujitsu Corporation (Japan), Fuji Electric Co., Ltd. (Japan), IceMOS Technology Corporation (U.S.), International Rectifier (U.S.), NXP Semiconductors (Netherlands), ON Semiconductor (U.S.) and Rohm Co., Ltd. (Japan).

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## About

The companies that provide a range of power options for power supply application will emerge as the game changers, as the customers will get a more efficient and compact device. The major focus for SJ-MOSFET market has to be consumer electronics application. Cost effectiveness would be yet another crucial factor for mass penetration of products in the different application segments. For example, to win the consumer in the SJ-MOSFET market, it is imperative that manufacturers come up with such a SJ-MOSFET device that provides not only an efficient power device, but also offers right pricing and compactness in its design.

The global SJ-MOSFET market revenue generated in 2013 was \$ XX million and is expected to grow up to \$ XX million, at an estimated CAGR of XX%, from 2013 to 2020. Whereas, the total shipment in 2013 was XX million units and is expected to reach up to XX million units in 2020, at an estimated CAGR of XX%, from 2013 to 2020.

With respect to the technology, Multiple-Epitaxy method covered about XX% of the total market by fabrication technology, whereas, Deep-Trench covered only XX%. But due to the lesser complexities of the fabrication in Deep-trench method, this technology is expected to share about XX% market till 2020, at an estimated CAGR of XX% from 2013 to 2020.

The shipment of Multiple-Epitaxy method technology in 2013 was XX million units and is expected to grow up to XX million units in 2020, at an estimated CAGR of XX%, from 2013 to 2020. With XX% of CAGR calculated from 2013 to 2020, Deep-Trench method will have shipment of XX million units in 2020.

Today, the SJ-MOSFET market shares XX% of the total \$ XX billion market of power electronic devices, but it is expected to penetrate with almost XX% in the market by 2020. The drivers behind this growth are: the need of small size power supplies, trend of larger but smaller width TVs and other smart devices, demand of hybrid and electric cars, and need of renewable energy resources for degrading environment standards.

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