
Mar.2017
STUDY GOAL AND OBJECTIVES

This report provides the industry executives with strategically significant competitor information, analysis, insight and projection on the competitive pattern and key companies in the industry, crucial to the development and implementation of effective business, marketing and R&D programs.

REPORT OBJECTIVES

◆ To establish a comprehensive, factual, annually updated and cost-effective information base on market size, competition patterns, market segments, goals and strategies of the leading players in the market, reviews and forecasts.
◆ To assist potential market entrants in evaluating prospective acquisition and joint venture candidates.
◆ To complement the organizations’ internal competitor information gathering efforts with strategic analysis, data interpretation and insight.
◆ To suggest for concerned investors in line with the current development of this industry as well as the development tendency.
◆ To help company to succeed in a competitive market, and

METHODODOLOGY

Both primary and secondary research methodologies were used in preparing this study. Initially, a comprehensive and exhaustive search of the literature on this industry was conducted. These sources included related books and journals, trade literature, marketing literature, other product/promotional literature, annual reports, security analyst reports, and other publications.

Subsequently, telephone interviews or email correspondence was conducted with marketing executives etc. Other sources included related magazines, academics, and consulting companies.

INFORMATION SOURCES

The primary information sources include Company Reports, and National Bureau of Statistics of China etc.
Abstract

China New Energy Vehicle Power Electronics Industry Report, 2017-2020 by ResearchInChina highlights the following:

◆ Development status of new energy vehicle power electronics in China e.g. drive motor controller, DC/DC converter, on-board charger, including industrial chain, cost analysis, business model, competition pattern, competition of mainstream manufacturers, respective elaborations on passenger vehicle and commercial vehicle power electronics competition pattern as well as a detailed analysis on technical status and trends of automotive power electronics;

◆ Analysis on 5 Chinese DC/DC and on-board charger enterprises, 22 Chinese motor controller enterprises, 8 global motor controller enterprises and 6 global IGBT enterprises, including corporate operation, development strategy, supply chain, new energy vehicle power electronics;

◆ Overview of new energy vehicle power electronics, including definition, classification, upstream & downstream industry chain;

◆ Operating environment for new energy vehicle power electronics, involving policy environment, the development of new energy vehicle market as well as its influence on new energy vehicle power electronics.

New energy vehicle electronic technology generally consists of battery management system (BMS), on-board charger, inverter, vehicle control unit (VCU)/hybrid control unit (HCU), pedestrian detection system, DC/DC, etc.. BMS, motor control inverter and VCU/HCU as core components of new energy vehicle must have very high security and reliability. New energy vehicle power electronics usually include AC/DC charger, DC-AC inverter and DC-DC; besides, there are motor controller for electric A/C compressor, PTC heater for electric A/C and others.

In the future, DC/DC converter and inverter will be integrated into new energy vehicle power controller, similar to VCU integration effect. However, the controller is generally placed in the nearest inverter unit to make software system shape a larger integration.

Motor controller price varies according to specifications and performance requirements. Currently, motor controller is generally priced at RMB20,000-30,000/set for big buses and RMB5,000-15,000/set for passenger vehicles. PHEV and HEV typically adopt the multi-motor architecture incorporating TM motor and ISG motor, and the corresponding motor controller costs higher.
Prices of DC-DC converter: (1) 2KW, RMB1,800-2,000/set; (2) 1.8KW, RMB1,500-1,700/set; (3) 1KW, RMB1,000/set.

Prices of on-board charger: (1) three-phase charger 10KW, RMB4,500-5,000/set; (2) single phase charger [EV] 6.6~7.2KW, RMB3,200-4,000/set; (3) single phase charger [PHEV] 3.3KW, RMB2,300-3,000/set.

As concerns the technology trends:

At present, EV motor controller mainly uses silica-based material oriented IGBT modules as before, but SiC-based WBG semiconductor devices have broken through limitations of silicon semiconductor devices in pressure-proof level, operating temperature, switching loss and switching speed, e.g. Nissan Leaf integrates motor, reducer and controller. This represents a trend towards standardized product from extremely small volume.

Functional integration is another aspect of system integration degree (SID). EV is possible to act as an energy storage element of new energy grid in the future, which requires the bi-directional association between vehicle and grid (V2G). And vehicle motor control inverter can also be used as charging/grid-feedback inverter for bi-directional connection between battery and grid, thus realizing integration of motor drive and two-way charger.

Two-way DC-DC converter has also been accepted by the market over last two years. It can achieve two-way energy transmission more easily, decrease the use of other electronic devices and economize the cost to some extent; plus advantages like small size and high efficiency, two-way DC-DC converter will find wider applications.
## DC-DC Converter (On-board Charger) Companies and Their Customers

<table>
<thead>
<tr>
<th>Company</th>
<th>Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDK</td>
<td>Honda</td>
</tr>
<tr>
<td>Bosch</td>
<td>Audi, Volkswagen, SAIC, BAIC, etc.</td>
</tr>
<tr>
<td>Emerson</td>
<td>GM, Ford, SAIC, FAW</td>
</tr>
<tr>
<td>Valeo</td>
<td>Volkswagen, GM, SAIC, Dongfeng, FAW, BYD, Changan</td>
</tr>
<tr>
<td>Delphi</td>
<td>GM, FAW, Volkswagen, SAIC, Nissan, Chery</td>
</tr>
<tr>
<td>Infineon</td>
<td>BMW, Audi</td>
</tr>
<tr>
<td>SHINRY</td>
<td>BAIC, GAC, Dongfeng, JAC, Yutong, etc.</td>
</tr>
<tr>
<td>Tiecheng Information</td>
<td>King Long, Zotye, JAC, Shaanxi Tongjia Automobile, etc.</td>
</tr>
<tr>
<td>DEREN Electronics</td>
<td>PSA Peugeot Citroën, BMW, Dongfeng, etc.</td>
</tr>
<tr>
<td>ZG Power Supply</td>
<td>SAIC-GM-Wuling, Geely, Zotye, Lifan, Xindayang, GreenWheel, etc.</td>
</tr>
<tr>
<td>Hangzhou EV-Tech</td>
<td>Dongfeng, BAIC, SAIC, Zotye, Geely, King Long, etc.</td>
</tr>
<tr>
<td>TonHe Electronics Technologies</td>
<td>Foton, Yutong, Nanjing Golden Dragon Bus, Xiamen Golden Dragon Bus, Wanxiang Electric Vehicle, etc.</td>
</tr>
</tbody>
</table>
1 Overview of Automotive Power Electronics

1.1 Overview

1.2 Motor Controller (Inverter)
1.2.1 Fundamentals
1.2.2 Product Classification
1.2.3 Technology Roadmap
1.2.4 Technology Trends
1.3 DC-DC Converter
1.3.1 Product Classification
1.3.2 Technology Trends
1.3.3 Technical Evaluation Indicators
1.3.4 Technical Difficulties and Industry Barriers
1.3.5 Main Components and Cost Structure
1.4 On-board Charger (OBC)
1.5 Summary

2 EV Motor Controller Market

2.1 Policy Environment
2.2 Market Size
2.3 Industry Profit
2.4 Supply Modes
2.5 Competitive Landscape
2.6 Supply Relation among Enterprises in the World

3 EV DC/DC and Charger Market

3.1 Market Size
3.2 Competitive Landscape
3.3 Technology Trends

3.4 Supply Relation among Enterprises in the World

4 Major Chinese DC/DC and Charger Enterprises

4.1 Hangzhou EV-Tech Co., Ltd.
4.1.1 Profile
4.1.2 Operation
4.1.3 Automotive DC/DC and Chargers
4.1.4 Capacity
4.2 SHINRY Technologies Co., Ltd.
4.2.1 Profile
4.2.2 Automotive DC/DC and Chargers
4.2.3 R&D and Technical Capability
4.3 Hangzhou Tiecheng Information Technology Co., Ltd.
4.3.1 Profile
4.3.2 Operation
4.3.3 Automotive DC/DC and Chargers
4.3.4 Technical Characteristics
4.4 Shijiazhuang Tonhe Electronics Technologies Co., Ltd.
4.4.1 Profile
4.4.2 Operation
4.4.3 Automotive DC/DC and Chargers Business
4.4.4 Technical Characteristics
4.5 Luoyang Grasen Power Technology Co., Ltd.
4.5.1 Profile
4.5.2 Operation
4.5.3 Automotive DC/DC and Chargers Business

5 Chinese EV Motor Controller (Inverter) Manufacturers

5.1 Shanghai E-drive Co., Ltd.
5.1.1 Profile
5.1.2 Operation
5.1.3 EV Motor Controller Business
5.1.4 Technical Characteristics
5.2 Shenzhen Inovance Technology Co., Ltd.
5.2.1 Profile
5.2.2 Operation
5.2.3 Operation of and Development Strategy for EV Motor Controller Business
5.2.4 EV Motor Controllers and Technical Characteristics
5.3 Shanghai Dajun Technologies, Inc.
5.3.1 Profile
5.3.2 Development History
5.3.3 Operation
5.3.4 Business Model
5.3.5 EV Motor Controllers and Technical Characteristics
5.3.6 Business in EV Field
5.3.7 Development Strategy in EV Field
5.4 Tianjin Santroll Electric Automobile Technology
5.4.1 Profile
5.4.2 EV Business
5.4.3 Main EV Power System Products and Technical Characteristics
5.4.4 Development Strategy in EV Field
5.5 Zhongshan Broad-Ocean Motor Co., Ltd.
5.5.1 Profile
5.5.2 Operation
5.5.3 EV Motor Controller Business
5.5.4 R&D
5.5.5 Development Strategy
5.6 United Automotive Electronic Systems Co., Ltd.
5.6.1 Profile
5.6.2 Production and R&D
5.6.3 EV Motor Controller Business
5.7 Hunan CRRC Times Electric Vehicle Co., Ltd.
5.7.1 Profile
5.7.2 Operation
5.7.3 EV Controller Business
5.7.4 Dynamics of Drive System Business
5.7.5 Capacity
5.8 BYD
5.8.1 Profile
5.8.2 Operation
5.8.3 EV Motor Controller Business
5.9 Zhuhai Enpower Electric Co., Ltd.
5.9.1 Profile
5.9.2 Sales and Costs
5.9.3 Sales Model
5.9.4 Major Customers
5.9.5 EV Motor Controllers
5.9.6 EV Motor Controller Business
5.9.7 R&D
5.9.8 Motor Controller Development Strategy
5.10 Shenzhen V&T Technologies Co., Ltd.
5.10.1 Profile
5.10.2 Sales and Costs
5.10.3 Sales Model
5.10.4 Major Customers
5.10.5 EV Motor Controller Business
5.10.6 R&D
5.10.7 Motor Controller Development Strategy
5.11 Fujian Fugong Power Technology Co., Ltd.
5.11.1 Profile
5.11.2 External Cooperation
5.11.3 NEV Drive Assembly Business
5.11.4 Capacity Planning
5.11.5 EV Motor Controller Business
5.11.6 R&D
5.11.7 Motor Controller Development Strategy
5.12 Chroma ATE Inc.
5.13 Delta Electronics
5.14 Jing-Jin Electric Technologies (Beijing) Co., Ltd.
5.15 DEC Dongfeng Electric Machinery Co., Ltd.
5.16 Nidec (Beijing) Drive Technologies Co., Ltd.
5.17 Time High-Tech Co., Ltd.
5.18 JEE Automation Equipment Co., Ltd.
5.19 Shandong Deyang Electronics Technology Co., Ltd.
5.20 Beijing Siemens Automotive E-Drive System Co., Ltd.
5.21 Prestolite E-Propagation Systems (Beijing) Limited
6.1 Hitachi Automotive Systems
6.1.1 Profile
6.1.2 Operation
6.1.3 Business in EV Field
6.2 Mitsubishi Electric
6.3 Meidensha
6.4 Toshiba
6.5 Hyundai Mobis
6.6 Delphi
6.7 Bosch
6.8 Continental
7 IGBT Suppliers
7.1 Fuji Electric
7.1.1 Profile
7.1.2 Operation
7.1.3 Business in EV Field
7.1.4 Development Strategy in EV Field
7.2 Infineon
7.2.1 Profile
7.2.2 Operation
7.2.3 Business in EV Field
7.2.4 Development Strategy in EV Field
7.3 Denso
7.4 ROHM
7.5 IR
7.6 Semikron
6 Global Motor Controller (Inverter) Manufacturers
• Diagram for Battery Electric Vehicle Control System
• Diagram for Hybrid Electric Vehicle Control System
• Types of Energy Conversion Components and Power Devices
• Types and Applicable Scope of Automotive Power Electronics
• Battery Electric Vehicle-use Power Supply Architecture (IEEE 2015)
• Hybrid Electric Vehicle-use Power Supply Architecture (IEEE 2016)
• Principle of Electric Vehicle Motor Controllers
• Drive Motor Controllers
• Inverter Supply Relationship Diagram
• Classification of EV Motor Controllers
• Second-generation Prius-use IGBT Power Modules and Motor Controllers
• Second-generation Prius-use IGBT Power Modules and Motor Controllers
• Structure of Hitachi’s First-generation Motor Controllers
• Structure of Hitachi’s Second-generation Motor Controllers
• Hitachi’s Double-sided Pin-Fin IGBT Modules and Third-generation Motor Controllers
• Bosch’s Third-generation Automotive IGBT Power Modules
• Bosch’s INV2CON Motor Controller
• Bosch’s INVCON2.3 Motor Controller
• Continental’s EPF2 Series Motor Controllers
• Continental’s New-generation Motor Controllers
• SiC (left) and Si (right) Motor Controllers Developed by Toyota and Denso Jointly
• Meidensha’s SiC Motor Controller-Motor Integrators
• DC-DC Converters
• Schematic Diagram of DC-DC High and Low Voltage Converters
• Schematic Diagram of DC-DC 12V Voltage Stabilizers
• Schematic Diagram of DC-DC High Voltage Boosters
• Typical Technical Parameters of DC-DC Converters
• Cost Ratio of Electric Vehicle Power Devices
• Policies on EV Motor Controllers in China
• Motor Drive and Power Electronic Technology R & D Goals and Tasks
• China’s EV Motor Controller Demand and Market Size, 2015-2020E
• China’s EV Motor Controller Supply Modes
• Motor and Controller Suppliers of Major Electric Bus Companies in China
• Motor and Controller Suppliers of Major Passenger Car Companies in China
• Inverter Supply of Some Vehicle Models Worldwide
• China’s DC/DC Converter and Automotive Charger Market Size, 2015-2020E
• DC-DC Converter (Automotive Charger) Companies and Supporting Situation
• DC/DC Converter Supply of Some Vehicle Models Worldwide
• Revenue and Profit of Shijiazhuang Tonhe Electronics Technologies, 2015-2016
• Equity Structure of Shanghai Edrive (before/after Acquisition)
• Operating System of Shanghai Edrive (after Acquisition)
• Major Customers of Broad-Ocean Motor and Shanghai Edrive
• Financial Indicators of Shanghai Edrive, 2009-2016
• Main Products of Shanghai Edrive
• Production Base Construction of Shanghai Edrive
• Electric Vehicle Drive Motor System Shipment of Shanghai Edrive, 2013-Q1 2015
• Core Patented Technologies of Shanghai Edrive
• Revenue and Net Income of Inovance Technology, 2009-2016
• Gross Margin of Inovance Technology, 2009-2016
• Revenue of Inovance Technology by Product, 2012-2016
• Gross Margin of Inovance Technology by Product, 2012-2016
• EV Motor Controller Project Progress of Inovance Technology, Q1 2016
• Automotive Electronics Customers of Inovance Technology
• Plug-in Hybrid Electric Bus System Solutions of Inovance Technology
• Main EV Motor Controllers and Applications of Inovance Technology
• Performance of Shanghai DAJUN Technologies, 2012-2016
• Main Materials Purchased by Shanghai DAJUN Technologies
• Technical Parameters of N110WSA Motor Controller of Shanghai DAJUN Technologies
• Technical Parameters of A360140J Motor Controller of Shanghai DAJUN Technologies
• Motor Drive System Output and Sales Volume of Shanghai DAJUN Technologies, 2012-2016
• Subsidiaries of Shanghai DAJUN Technologies
• Equity Structure of Tianjin Santroll
• Key Financial Indicators of Tianjin Santroll, 2014-2015
• IV-generation Plug-in Hybrid System Configuration of Tianjin Santroll
• Battery Electric Time Share of China’s Typical City Bus Cycle (CCBC)
• Actual Operating Proportion of Battery Electric Bus 803 in Tianjin
• 5th-generation Electronic Control Units of Tianjin Santroll
• Equity Structure of Broad-Ocean Motor
• New Energy Vehicle Powertrain Revenue of Broad-Ocean Motor, 2012-2016
• 30KW Motor (YTD030W04) + Controller (KM6025W05) Drive Motor System of Broad-Ocean Motor
• Ongoing New Energy Vehicle Electric Drive System Projects of Broad-Ocean Motor
• New Energy Vehicle Market Layout of Broad-Ocean Motor
• Ten-year Development Strategy of Broad-Ocean Motor
• Distribution of UAES’ Production Bases and R & D Centers
• Overview of UAES’ R & D Centers
• Power Drive Product Lines of UAES
• Overview of UAES’ Electric Drive Test Equipment
• Planning of UAES in Power Electronic Controllers
• R & D Capability of UAES in Power Electronic Controllers
• Structure and Specifications of UAES’ Single Motor Control Products
• Structure and Specifications of UAES’ Double Motor Control Products
• Financial Indicators of Hunan CRRC Times Electric Vehicle, 2011-2015
• Motor Controllers of Hunan CRRC Times Electric Vehicle
• BYD’s Workforce, 2007-2015
• Car Output and Sales Volume of BYD, 2010-2016
• Revenue, Net Income and Gross Margin of BYD, 2007-2016
• BYD’s Revenue Breakdown (by Product), 2007-2016
• BYD’s Gross Margin (by Product), 2008-2016
• BYD’s Revenue Breakdown (by Region), 2008-2016
• Bidirectional Inversion Charging/Discharging Electric Drive Motor Controllers
• BYD’s Bidirectional Inversion Charging/Discharging Technology
• BYD’s Process Capability for Motor Controller
• BYD’s Key Production Lines and Equipment for Motor Controller
• Revenue Breakdown of Zhuhai Enpower Electric Co., Ltd. by Product, 2013-2015
• Top5 Suppliers and Procurement Breakdown of Zhuhai Enpower Electric Co., Ltd., 2015
• Motor Controller Partners of Zhuhai Enpower Electric Co., Ltd.
• Top5 Clients and Revenue Breakdown of Zhuhai Enpower Electric Co., Ltd., 2013-2015
Selected Charts

- R&D Projects of Zhuhai Enpower Electric Co., Ltd.
- Overview of Zhuhai Enpower Electric Co., Ltd.'s Projects with Raised Funds via IPO
- Revenue and Net Income of Shenzhen V&T Technologies Co., Ltd., 2011-2016
- Revenue Breakdown of Shenzhen V&T Technologies Co., Ltd. by Product, 2011-2016
- Procurement and Purchase Price of Main Raw Materials for Motor Controller of Shenzhen V&T Technologies Co., Ltd., 2012-2015Q1-Q3
- Product Sales Model of Shenzhen V&T Technologies Co., Ltd., 2011-2014
- Top5 Customers of Shenzhen V&T Technologies Co., Ltd., 2011-2014
- Shenzhen V&T Technologies Co., Ltd.'s Major Customers for Its EV Motor Controllers
- Average Unit Price of Shenzhen V&T Technologies Co., Ltd.'s EV Motor Controllers, 2012-2015
- EV Motor Controller Capacity and Utilization of Shenzhen V&T Technologies Co., Ltd., 2012-2015
- EV Motor Controller Sales Volume of Shenzhen V&T Technologies Co., Ltd., 2012-2015
- Shenzhen V&T Technologies Co., Ltd.'s Core Technologies for Motor Controller
- Shenzhen V&T Technologies Co., Ltd.'s Projects with Raised Funds via IPO
- Architecture of CHS Dual-mode Hybrid System
- Diagram of Internal CHS Hybrid Transmission Case
- Auto Models with CHS Hybrid System
- Global Presence of Chroma ATE Inc.
- Financial Indices of Chroma ATE Inc. (Group’s Consolidation), 2009-2016
- Chroma ATE Inc.'s Revenue Breakdown (by Division), 2012-2016
- CR Series Motor Controller Product Line of Chroma ATE Inc.
- Key Technical Parameters of Chroma ATE Inc.'s CR Series Motor Controller
Selected Charts

- Financial Indices of Delta Electronics, 2009-2016
- Capacity, Output and Output Value (by Product) of Delta Electronics, 2013-2015
- Sales Volume (by Product) of Delta Electronics, 2014-2015
- Key R&D Equipment of Jing-Jin Electric Technologies (Beijing) Co., Ltd.
- Performance Parameters of 150KW Vehicle-used Motor Controller of Jing-Jin Electric Technologies (Beijing) Co., Ltd.
- EV Motor Controllers of DEC Dongfeng Electric Machinery Co., Ltd.
- New Energy Vehicle SRD Motor of Nidec (Beijing) Drive Technologies Co., Ltd.
- Battery Electric Power & Control System Assemblies of Time High-Tech Co., Ltd.
- EV Power Control System Composition Solution of Time High-Tech Co., Ltd.
- Key Technical Parameters of Time High-Tech Co., Ltd.’s EV Motor Controller
- Revenue of Hitachi Automotive Systems, FY2011-FY2015
- Hitachi Automotive Systems’ Major Customers for Its EV Inverters
- Mitsubishi Electric’s Financial Indices, FY2010-2016
- Mitsubishi Electric’s Revenue Breakdown (by Business), FY2015
- Mitsubishi Electric’s Major Customers for Its EV Inverters
- Meidensha’s Financial Indices, FY2012-FY2016
- Meidensha’s Revenue and Profits (by Division), FY2014-FY2015
- Meidensha’s Major Customers for Its EV Inverters
- Toshiba’s Revenue and Net Income, FY2011-2015
- Toshiba’s Revenue Structure (by Business), FY2011-FY2015
- Revenue of Toshiba’s Electronic Devices & Components Division, FY2011-FY2015
- Toshiba’s Major Customers for Its EV Inverters
- Hyundai Mobis’ Revenue and Operating Margin, FY2006- FY2015
- Hyundai Mobis’ Major Customers for Its EV Inverters
- Delphi’s Workforce, 2011-2015
• Delphi’s Main Financial Indices, 2013-2015
• Delphi’s Revenue Structure (by Division), 2011-2015
• Delphi’s Gross Margin (by Division), 2010-2015
• Main Growth Fields of Delphi (by Division), 2013-2016
• Delphi’s Revenue Breakdown (by Region), 2010-2014
• Delphi’s Major Customers and Regional Distribution
• Delphi’s Major Customers and Revenue Contribution Rates, 2015
• Delphi’s Product Distribution in EV Field
• Technical Features of Delphi’s EV Inverters
• Delphi’s Major Customers for Its EV Inverters
• Bosch’s Workforce, 2010-2015
• Bosch’s Revenue and EBIT, 2010-2015
• Bosch’s Revenue Structure (by Division), 2012-2014
• Revenue and EBIT of Bosch’s Automotive Division, 2012-2014
• Bosch’s Revenue Structure (by Region), 2012-2014
• Bosch’s Revenue in Major Countries, 2012-2014
• Bosch’s Major Customers for Its EV Inverters
• Continental’s Workforce, 2009-2014
• Continental’s Revenue and EBIT, 2009-2015H1
• Continental’s Revenue Structure (by Division), 2008-2013
• Continental’s Revenue Structure (by Region), 2008-2013
• Continental’s Major Customers for Its EV Inverters
• Fuji Electric’s Main Financial Indices, FY2010-FY2016
• Fuji Electric’s Revenue and Operating Income (by Business), FY2013-FY2016
• Fuji Electric’s Revenue Breakdown (by Region), FY2011-FY2016
Selected Charts

- 7th-generation IGBT Product Planning of Fuji Electric, 2016-2018
- Industrial IGBT / SiC Loss Comparison, 2015-2017
- Automotive Power Module Development Roadmap of Fuji Electric, 2005-2025
- Global Rankings of Infineon's Three Major Businesses, 2013
- Infineon's Revenue Breakdown (by Region), FY2013-FY2015
- Infineon's Revenue Breakdown (by Division), FY2013-FY2015
- Infineon EiceDRIVER? Family IGBT Modules
- Denso's Workforce, FY2011-FY2015
- Denso's Revenue and Profits, FY2013-FY2015
- Denso's Operating Income and Net Income, FY2011-FY2015
- Denso's Revenue Structure (by Division), FY2013-FY2015Q1
- Denso's Revenue Breakdown (by Division), FY2013-FY2015Q1
- Denso's Revenue and Operating Income (by Region), FY2013-FY2015
- Denso's Revenue Breakdown (by Customer), FY2010-FY2014
- Denso's Client Structure, FY2013-FY2014
- Power Electronics Projects of Japanese NEDO
- ROHM's Financial Indices, FY2010-FY2015
- ROHM's Revenue Breakdown (by Business), FY2012-FY2017
- ROHM's Revenue Breakdown (by Region), FY2012-FY2017
- ROHM's Revenue Breakdown (by Application), FY2012-FY2017
- Main Technical Parameters of ROHM's Vehicle-used IGBT Module
- Development History of ROHM's SiC Products
- SiC-based Power Device Lineup of ROHM
- IR's Revenue Breakdown (by Division), FY2012-FY2014
- Operation of Semikron
How to Buy

You can place your order in the following alternative ways:

1. Order online at [www.researchinchina.com](http://www.researchinchina.com)
2. Fax order sheet to us at fax number: +86 10 82601570
3. Email your order to: [report@researchinchina.com](mailto:report@researchinchina.com)
4. Phone us at +86 10 82600828/ 82601561

Choose type of format

<table>
<thead>
<tr>
<th>Format</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDF (Single user license)</td>
<td>2,700 USD</td>
</tr>
<tr>
<td>Hard copy</td>
<td>2,900 USD</td>
</tr>
<tr>
<td>PDF (Enterprisewide license)</td>
<td>4,300 USD</td>
</tr>
</tbody>
</table>

※ Reports will be dispatched immediately once full payment has been received.

Payment may be made by wire transfer or credit card via PayPal.
About ResearchInChina

ResearchInChina (www.researchinchina.com) is a leading independent provider of China business intelligence. Our research is designed to meet the diverse planning and information needs of businesses, institutions, and professional investors worldwide. Our services are used in a variety of ways, including strategic planning, product and sales forecasting, risk and sensitivity management, and as investment research.

Our Major Activities

- **Multi-users market reports**
- **Database-RICDB**
- **Custom Research**
- **Company Search**

**RICDB** ([http://www.researchinchina.com/data/database.html](http://www.researchinchina.com/data/database.html)), is a visible financial data base presented by map and graph covering global and China macroeconomic data, industry data, and company data. It has included nearly 500,000 indices (based on time series), and is continuing to update and increase. The most significant feature of this base is that the vast majority of indices (about 400,000) can be displayed in map.

After purchase of our report, you will be automatically granted to enjoy 2 weeks trial service of RICDB for free.

After trial, you can decide to become our formal member or not. We will try our best to meet your demand. For more information, please find at www.researchinchina.com

For any problems, please contact our service team at:

Room 502, Block 3, Tower C, Changyuan Tiandi Building, No. 18, Suzhou Street, Haidian District, Beijing, China 100080
Phone: +86 10 82600828 ● Fax: +86 10 82601570 ● www.researchinchina.com ● report@researchinchina.com