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# Semiconductors: United States

January 2018



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# About This Report

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## Scope & Method

This report forecasts to 2021 US semiconductor shipments in nominal US dollars at the manufacturer level. Total shipments are segmented by product in terms of:

- integrated circuits
- transistors
- diodes and rectifiers
- other products such as wafers, LEDs, and solar cells

To illustrate historical trends, total shipments, the various segments, and trade are provided in annual series from 2006 to 2016. Re-exports of semiconductors are excluded from trade figures.

This report quantifies trends in various measures of growth and volatility. Growth (or decline) expressed as an average annual growth rate (AAGR) is the least squares growth rate, which takes into account all available datapoints over a period. The volatility of datapoints around a least squares growth trend over time is expressed via the coefficient of determination, or  $r^2$ . The most stable data series relative to the trend carries an  $r^2$  value of 1.0; the most volatile – 0.0. Growth calculated as a compound annual growth rate (CAGR) employs, by definition, only the first and last datapoints over a period. The CAGR is used to describe forecast growth, defined as the expected trend beginning in the base year and ending in the forecast year. Readers are encouraged to consider historical volatility when assessing particular annual values along the forecast trend, including in the forecast year.

Key macroeconomic indicators are also provided with quantified trends. Other various topics, including profiles of pertinent leading suppliers, are covered in this report. A full outline of report items by page is available in the Table of Contents.

## Sources

*Semiconductors: United States* (FF80023) represents the synthesis and analysis of data from various primary, secondary, macroeconomic, and demographic sources including:

- firms participating in the industry, and their suppliers and customers
- government/public agencies
- national, regional, and international non-governmental organizations
- trade associations and their publications
- the business and trade press
- indicator forecasts by The Freedonia Group

## About This Report

- the findings of other reports and studies by The Freedonia Group

Specific sources and additional resources are listed in the Resources section of this publication for reference and to facilitate further research.

## Industry Codes

Table 8 | Industry Codes Related to Semiconductor

NAICS/SCIAN 2007		SIC	
North American Industry Classification System		Standard Industrial Classification	
333295	Semiconductor Machinery Mfg	3559	Special Industry Machinery, NEC
334413	Semiconductor and Related Device Mfg	3674	Semiconductors and Related Devices
334515	Instrument Mfg for Measuring and Testing Electricity and Electrical Signals	3825	Instruments for Measuring and Testing of Electricity and Electrical Signals

Source: US Census Bureau

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## Resources

### The Freedonia Group

#### Freedonia Industry Studies

*North American Automotive Aftermarket*, November 2017

*Protective Packaging in the US*, November 2017

*World Industrial Silica Sand*, October 2016

*World Specialty Silicas*, April 2016

*Specialty Silicas*, January 2016

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*Silicon: United States*

#### Freedonia Custom Research

### Trade Publications

*Compound Semiconductor*

*EDN Network*

*Electronic Engineering Times*

*EPS News*

*Semiconductor Engineering*

*Solid State Technology*

### Agencies & Associations

Global Semiconductor Alliance

Institute of Electrical and Electronics Engineers

The Optical Society

SEMI

Semiconductor Industry Association

United States Department of Commerce

International Trade Administration

United States Census Bureau

United States Department of Labor

## About This Report

Occupational Safety and Health Administration  
United States Environmental Protection Agency  
United States International Trade Commission  
World Semiconductor Trade Statistics