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## **Power Transistors To See Less Volatility In Second Half of This Decade**

*Greater demand for energy efficiency in systems, cars, portable electronics, and new connections to the Internet of Things will steadily drive power transistor sales to new record-high levels in the next three years.*

Power transistors—the \$12 billion growth engine in the \$21 billion discrete semiconductor market—have faced a choppy uphill climb since surging in the 2010 recovery from the 2008-2009 economic recession. Worldwide revenues for power transistors continue to increase by a compound annual growth rate (CAGR) of about 4%, but sales in the largest discretely product category have fallen in three out of the last five years because of ongoing economic uncertainty and quick cancellation of purchase orders by systems makers whenever they see signs of demand weakening for end-use electronic products, says IC Insights' 2016 *O-S-D Report—A Market Analysis and Forecast for Optoelectronics, Sensors/Actuators, and Discretely*.

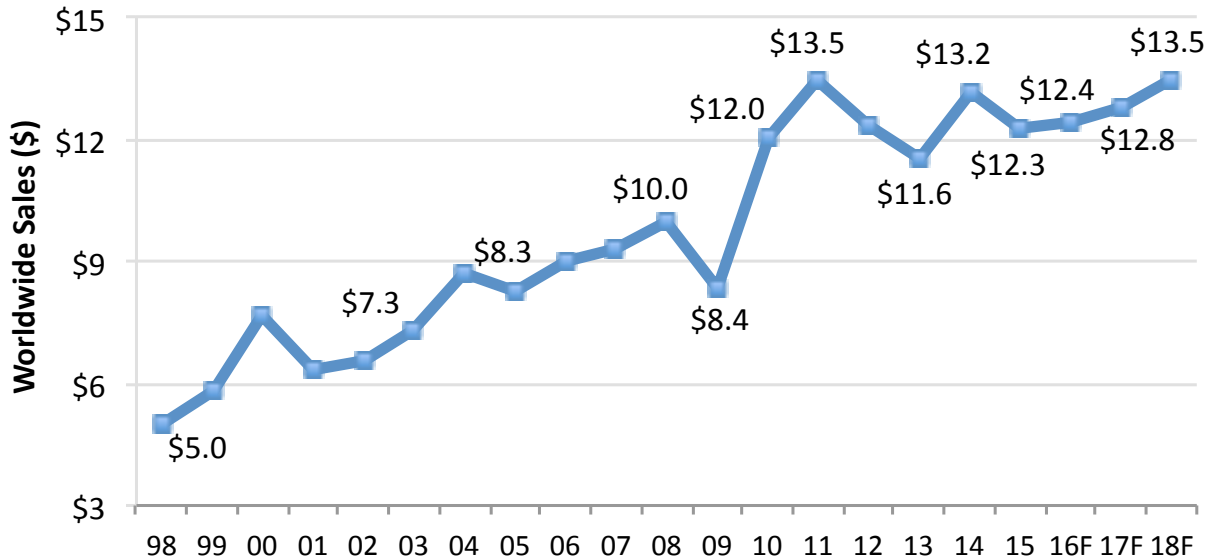
### **MORE INFORMATION CONTACT**

Rob Lineback  
Senior Market Research Analyst  
Phone: +1-817-731-0424  
Email: [rob@icinsights.com](mailto:rob@icinsights.com)

After dropping 7% in 2015 to \$12.3 billion, power transistor sales are expected to stabilize and begin a modest recovery in 2016, growing by a little over 1% to \$12.4 billion, according to the latest edition of IC Insights' annual *O-S-D Report*, which contains a detailed five-year forecast of sales, unit shipments, and average selling prices (ASPs) for more than 30 individual product types and device categories in optoelectronics, sensors/actuators, and discretely. The 360-page report shows power transistor sales slowly regaining strength in the next few years, rising 3% in 2017 to \$12.8 billion followed by 5% growth in 2018 to about \$13.5 billion, which will match the current annual peak set in 2011 (Figure 1).

Between 2015 and 2020, power transistor sales are projected to grow by a CAGR of 3.9% to \$14.8 billion in the final year of the 2016 *O-S-D Report's* forecast. The annual growth rate in the second half of this decade essentially matches the CAGR of 4.0% recorded in the last 10 years (2005-2015), but IC Insights anticipates much less volatility in the power transistor market because worldwide demand will continue to climb for greater energy efficiency in data center computers, industrial systems, home appliances, battery-operated portable electronics, automobiles, and the explosion of connections to the Internet of Things (IoT). Worldwide shipments of power transistors are now forecast to rise by a CAGR of 6.5%, reaching 71.1 billion units in 2020 compared to about 52.0 billion in 2015.

## Power Transistor Sales Zigzag Higher



Source: IC Insights

**Figure 1**

Among the power transistor product categories, sales growth is expected to be the strongest in high-voltage field-effect transistors (FETs) and insulated-gate bipolar transistor (IGBT) modules during the second half of this decade. The 2016 *O-S-D Report* shows sales of high-voltage (over 200V) FETs growing by a CAGR of 4.7% to \$2.4 billion in 2020 while IGBT modules are expected to increase by an annual rate of 4.0% to \$3.2 billion in five years. Other projected 2015-2020 CAGR growth rates for power transistor product categories are: 3.7% for low-voltage FETs (under 200V) to \$5.6 billion; 3.8% for discrete IGBT transistors to \$1.1 billion; and 3.1% for bipolar junction transistors to \$886 million in 2020.

### Report Details: *The 2016 O-S-D Report*

In a one-of-a-kind study, IC Insights continues to expand its coverage of the semiconductor industry with detailed analysis of trends and growth rates in the optoelectronics, sensors/actuators, and discretes market segments in its newly revised 360-page *O-S-D Report—A Market Analysis and Forecast for the Optoelectronics, Sensors/Actuators, and Discretes*.

Now in its 11th annual edition, the *2016 O-S-D Report* contains a detailed forecast of sales, unit shipments, and selling prices for more than 30 individual product types and categories through 2020. Also included is a review of technology trends for each of the segments. The *2016 O-S-D Report*, with more than 240 charts and figures, is attractively priced at \$3,390 for an individual-user license and \$6,490 for a multi-user corporate license.

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