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RF/Microwave to Lead Power Transistor Recovery in 2021

The total power transistor market is expected to fall 7% in 2020 because of the Covid-19 virus crisis, but sales are forecast to rebound 7% next year and reach a new record high in 2022, says O-S-D Report.

After three straight years of record-high sales, the power transistor market is forecast to drop 7% in 2020 because of the economic fallout from the global Covid-19 virus health crisis that has driven down demand across a broad range of systems. A recovery in power transistors is now expected to occur in 2021 with worldwide sales growing 7% to \$16.9 billion and unit shipments rising 9% to 59.0 billion, according to IC Insights' 2020 *O-S-D Report—A Market Analysis and Forecast for Optoelectronics, Sensors/Actuators, and Discrettes*. The 2020 edition of the *O-S-D Report* shows the power transistor market returning to record-high territory in 2022, when sales are forecast to grow 5% to \$17.7 billion, which would top the current annual peak of \$17.1 billion set in 2019.

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Growth in radio-frequency and microwave power transistors is expected to lead the market recovery in 2021 because of the build-out of fifth-generation (5G) cellular networks that will use a range of new transmission frequencies, including those in the millimeter (mmWave) spectrum. New 5G basestations are also employing more antennas and multiple signals to secure high-speed connections with smartphones and Internet of Things systems—such as self-driving cars—that need real-time communications. RF/microwave devices are forecast to lead power transistor market growth through 2024 (Figure 1).

IC Insights' 2020 *O-S-D Report* forecasts the 2021 power transistor recovery being led by growth in RF/microwave products (+9% to \$1.3 billion), low-voltage (<40V) power field-effect transistors (+8% to \$3.7 billion), and bipolar power modules (+8% to \$54 million). The report also shows insulated-gate bipolar transistor (IGBT) module sales growing 7% to \$4.1 billion in 2021 and IGBT discrete transistor revenues rising 7% to a record-high \$1.6 billion that year. The ongoing spread of battery-operated products, more mobile systems, increased efficiencies in power supplies, and improvements in electric/hybrid vehicles will continue to drive growth in power FETs and IGBT products over the next four years, says the *O-S-D Report*.

Power Transistor Market Snapshot

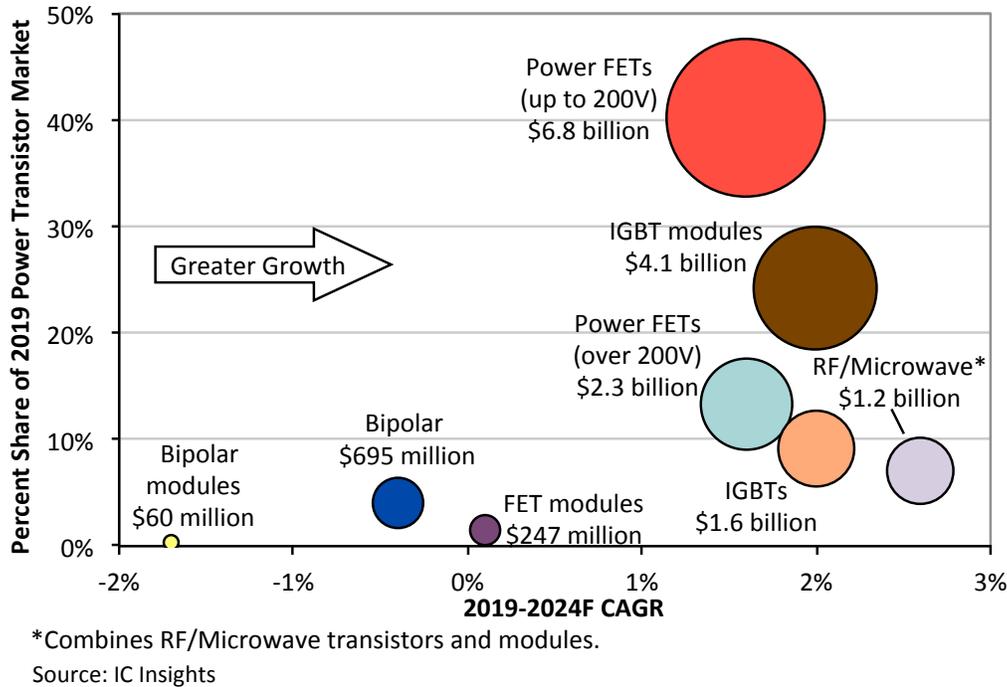


Figure 1

Total power transistor sales are expected to increase by a modest 1.7% compound annual growth rate (CAGR) between 2019 and 2024 to hit \$18.6 billion in the final year of the *O-S-D Report's* forecast. This projected sales growth rate is 3.6 percentage points below the CAGR of 5.3% seen in the last five years (2014-2019), mostly because of the downturn in 2020 due to the Covid-19 virus pandemic.

Report Details: *The 2020 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 350-page *O-S-D Report—A Market Analysis and Forecast for the Optoelectronics, Sensors/Actuators, and Discretes*.

Now in its 15th annual edition, the 2020 *O-S-D Report* contains a detailed forecast of sales, unit shipments, and selling prices for more than 40 individual product types and categories through 2024. Also included is a review of technology trends for each of the segments. The 2020 *O-S-D Report*, with more than 240 charts and figures, is attractively priced at \$4,190 for an individual-user license and \$7,290 for a multi-user corporate license.

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