RESEARCH BULLETIN

IC Insights

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Semiconductor Unit Shipments Exceeded 1 Trillion Devices in 2018

Semiconductor units forecast to increase 7% in 2019 with IC units rising 8%, O-S-D units growing 7%.

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Annual semiconductor unit shipments, including integrated circuits and optoelectronics, sensors, and discrete (O-S-D) devices grew 10% in 2018 and surpassed the *one trillion* unit mark for the first time, based on data presented in the new, 2019 edition of IC Insights' *McClean Report—A Complete Analysis and Forecast of the Integrated Circuit Industry.* As shown in Figure 1, semiconductor unit shipments climbed to 1,068.2 billion units in 2018 and are expected to climb to 1,142.6 billion in 2019, which equates to 7% growth for the year. Starting in 1978 with 32.6 billion units and going through 2019, the compound annual growth rate for semiconductor units is forecast to be 9.1%, a very impressive growth figure over 40 years, given the cyclical and often volatile nature of the semiconductor industry.

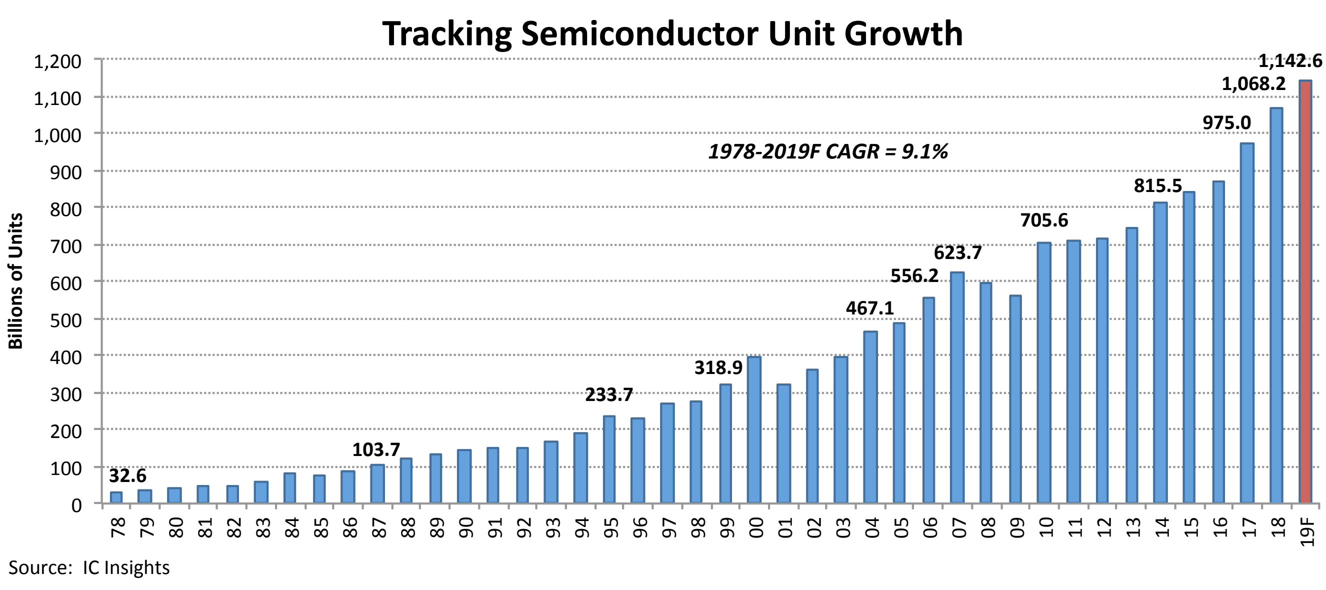

Figure 1

Over the span of just four years (2004-2007), semiconductor shipments broke through the 400-, 500-, and 600-billion unit levels before the global financial meltdown caused a big decline in semiconductor unit shipments in 2008 and 2009. Unit growth rebounded sharply with 25% growth in 2010, which saw semiconductor shipments surpass 700 billion devices. Another strong increase in 2017 (12% growth) lifted semiconductor unit shipments beyond the 900-billion level before the one trillion mark was achieved in 2018.

The largest annual increase in semiconductor unit growth during the timespan shown was 34% in 1984, and the biggest decline was 19% in 2001 following the dot-com bust. The global financial meltdown and ensuing recession caused semiconductor shipments to fall in both 2008 and 2009; the only time that the industry experienced consecutive years in which unit shipments declined. The 25% increase in 2010 was the second-highest growth rate across the time span.

The percentage split of total semiconductor shipments is forecast to remain heavily weighted toward O-S-D devices in 2019 (Figure 2). O-S-D devices are forecast to account for 70% of total semiconductor units compared to 30% for ICs. This percentage split has remained fairly steady over the years. In 1980, O-S-D devices accounted for 78% of semiconductor units and ICs represented 22%. Many of the semiconductor categories forecast to have the strongest unit growth rates in 2019 are those that are essential building-blocks for smartphones, automotive electronics systems, and devices that are used in computing systems essential to artificial intelligence, "big data," and deep learning applications.

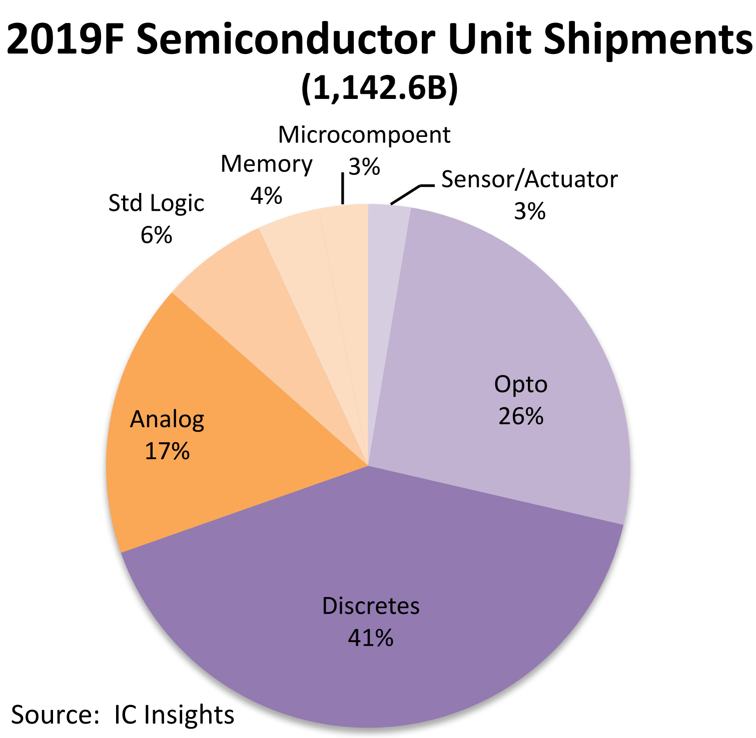

Figure 2

Report Details: *The 2019 McClean Report*

Additional details on IC and semiconductor unit and market trends are provided in the 2019 edition of *The McClean Report—A Complete Analysis and Forecast of the Integrated Circuit Industry.* A subscription to *The McClean Report* includes **free** monthly updates from March through November (including a 250+ page *Mid-Year Update*), and **free** access to subscriber-only webinars throughout the year. An individual-user license to the 2019 edition of *The McClean Report* is priced at $4,990 and includes an Internet access password. A multi-user worldwide corporate license is available for $7,990.

Your 2019 subscription includes free attendance at a *McClean Report* half-day seminar (one seat for each copy purchased; company-wide licensees receive five free seats). The final date on this year's *McClean Report* seminar tour is shown below.

Tuesday, January 29, 2019 — Boston, Massachusetts

(Space is limited, please call for availability)

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