



Protection Solutions Enable a greener world

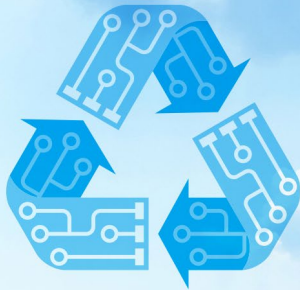
Electronic waste (e-waste) is among the fastest-growing waste streams globally. Around 50 million¹ tons of e-waste are generated each year with an estimated value of \$60-\$70 billion². Environmental agencies have collected data that shows that in the U.S. alone, around 30 million computers are discarded each year³. On a global basis, around 500 million smartphones are similarly disposed of each year^{4 5}. Reducing e-waste is a primary worldwide concern.



200 Flynn Road, Camarillo, California 93012 | 805-498-2111 | semtech.com

Semtech Corporation is a leading global supplier of high performance analog and mixed-signal semiconductors and advanced algorithms for infrastructure, high-end consumer and industrial equipment. Products are designed to benefit the engineering community as well as the global community. The Company is dedicated to reducing the impact it, and its products, have on the environment. Internal green programs seek to reduce waste through material and manufacturing control, use of green technology and designing for resource reduction. Publicly traded since 1967, Semtech is listed on the NASDAQ Global Select Market under the symbol SMTC. For more information, visit semtech.com.

BACKGROUND



Modern integrated circuits and electronic systems face many electrical threats such as electrostatic discharge (ESD), power surges, lightning-induced surges, and disturbances created by electromagnetic interference. When left unaddressed or inadequately addressed, these electrical threats result in premature failure of systems containing electronics such as automobiles, industrial manufacturing systems, mobile phone networks, etc., or electronic products such as smartphones, computers, tablets, monitors, and network switches. Premature failure leads to the creation of more e-waste.

Modern electronics achieve higher performance by migrating to smaller silicon geometries. A few years ago, many System-on-Chip (SOC) integrated circuits (ICs) were being produced on the 10nm node. Today, new designs are adopting the 7nm node. The IC industry is already working on 5nm and 3nm technologies. Technology for a smaller node is inherently more sensitive to electrical threats. This sensitivity gets progressively worse as technology keeps reducing to smaller nodes. This sensitivity creates a significant challenge, in that, with each transition, SOCs become much more vulnerable to electrical threats, increasing the risk and likelihood of e-waste creation.

By offering the industry's highest levels of defense against electrical threats, solutions from Semtech's Protection Products Group enable significant reduction in e-waste generation and reuse of electronic devices. Semtech's Protection devices address more than 15% of the world's circuit protection needs by volume⁶. Semtech continually innovates and develops newer, enhanced, industry-leading protection solutions to match the performance and protection needs of each new generation of silicon technology.

By not letting electronic systems fail prematurely, Semtech allows end users to enjoy extended lifetimes for their electronic products. These extended lifetimes result in fewer replacement cycles. Even when the owner needs to upgrade the product, the longer lifetimes enable reuse of the product via resale or transfer to another user. With industry leading superior quality, as demonstrated via ultra-low levels of defective parts per million (DPPM) metric, Semtech's Protection products enable electronics manufacturers to further reduce rework and manufacturing waste.

CONCLUSION

Protection Products Group

Through continuous innovation in creating optimized, high-performance protection solutions for each generation of silicon technology and with industry leading quality metrics, Semtech plays an important role in making our planet greener by reducing e-waste and allow for longer equipment lifetimes, allowing for prolonged reuse of electronics and systems.

Madhu Rayabhari

Senior Vice President & General Manager, Semtech Protection Products Group



¹ UN Report. <https://unu.edu/media-relations/releases/global-e-waste-surging-up-21-in-5-years.html>

² The Global E-waste Monitor 2020 – Quantities, flows, and the circular economy potential. <https://ewastemonitor.info/gem-2020/>

³ Gartner Says Worldwide PC Shipments Grew 1% in Third Quarter of 2021. <https://www.gartner.com/en/newsroom/press-releases/2021-10-11-gartner-says-worldwide-pc-shipments-grew-1-percent-in-third-quarter-of-2021>; Assumption of 3 year product life cycle, and 1/3 gets to e-waste

⁴ Earth 911 – ewaste facts. <https://earth911.com/eco-tech/20-e-waste-facts/>

⁵ https://en.wikipedia.org/wiki/Electronic_waste "The USA discards 30 million computers each year and 100 million phones are disposed of in Europe each year". 1.5B smartphones are produced annually, assumption of 3-year product cycle, and 1/3 goes to e-waste.

⁶ Semtech Internal Estimates FY22 revenues of \$203M. Total SAM of \$1.2B. 16.9% Marketshare.