

ICs for ESD and EMI PROTECTION— MARKET and TRENDS

IC-based Integration Opportunities for ESD Protection

ABSTRACT

Note: Our clients find most of a report's value in specific parts of our reports; in areas of their special interest (Pareto's 80/20 rule). In that sense our published reports, which address complex and fragmented markets, are never "finished." Our unique solution is:

- Together with both [our reports and unlimited post-sale inquiry service we deliver more than 100% value and always exceed client expectations.](#)

The purpose of this report is to deliver strategy insights into the evolving semiconductor ESD and EMI protection devices landscape. Note that this report addresses discrete and IC-based protection devices, that is, [not on-chip ESD protection](#) (which is mostly in the intellectual property domain and in which Sarnoff's on-chip ESD IP dominates). The report validates the profound changes in the semiconductor ESD and EMI protection market, specifically its accelerating transformation and migration – from Discretives into ICs. The new IC segment of ESD and EMI protection includes many other analog functions on ever-larger dies.

In order to assess the IC integration opportunities of ESD and EMI protection devices we first needed to deliver an up-to-date view of the ESD and EMI market. We used our methodology specifically tailored for the ESD and EMI market, and based on our extensive segmentation work; we refer to this methodology as "From End-Market to BOM" (bill of materials) methodology.

The resulting market data reveal that the actual ESD and EMI market is significantly larger than captured by traditional market statistics – [an order of magnitude larger, that is, more than \\$6B in 2008 instead of merely \\$0.7B as reported by WSTS statistics.](#) Emerging semiconductor and packaging technologies have created new classes of products, making traditional classification and market size estimates obsolete.

Our report illustrates that [the IC-based integration trend of ESD and EMI protection solutions will significantly increase the total market within a relatively short period – driven primarily by high-speed interfaces and mobile applications.](#) The emerging IC-based ESD and EMI protection market creates numerous high margin and high ASP business opportunities since IC-based protection devices are very application-specific, that is, there are many large and small volume differentiated segment opportunities.

This report's ESD and EMI market-specific methodology fills the void created by legacy market classifications and their lagging statistics, especially in the consumer sector. The report provides an in-depth view of the current ESD and EMI protection devices market, and its segment size and growth potential. We achieve this by taking fresh, unbiased top-down and bottom-up analyses of the market landscape and by introducing revised market segmentation.

The evolution of semiconductor ESD and EMI protection devices has blurred the traditional boundary between discrete and IC devices. The new IC-based integrated products combine analog perimeter functions and single-function discrete and passive devices on a single chip. [This is creating new high margin business opportunities for current vendors and for new entrants.](#)

Please note that we provide after-sale free-of-charge report support, another feature of our service differentiation which is highly appreciated by our clients.

TABLE OF CONTENTS (69 pages, 41 figures)

1. Introduction

2. Key Findings

3. Market Segments, Size, and Trends (focus on clamping-type devices)

- PG segmentation of discrete semiconductor devices
- PG segmentation of semiconductor-based protection devices by device type and applications
- PG “End-market to BOM” methodology
- Mapping of protection devices by major end-equipment type and applications
- Market size by end-equipment type and application segment
- Protection devices — profitability and value-add aspects and patterns
- Comparative SWOT analyses of selected vendors
- IC integration opportunities of ESD and EMI protection devices
- Drivers of IC integration of ESD and EMI protection devices
- Current IC examples and market size projection of emerging IC-based segments

4. Mapping of Protection Device Applications by End-Equipment Type

- End-equipment system and application model
- Mobile devices — handset, portable media player, and digital still camera (Applications—LCD display/camera, audio, MMC/SIM/memory card, keypad, bottom connector, and USB interfaces)
- Consumer devices — HDTV, DVD, and set-top box (Applications—data interface ports (HDMI, Ethernet, USB, Firewire, SCART, other), LCD display, connector, and audio)
- Computing devices — notebook, desktop, server, optical/HDD, and printer (Applications—data interface ports (DVI, VGA, USB, SATA, PS/2, Firewire, IEEE1284, and Ethernet), LCD monitor, audio, MMC/Flash memory card, connector, and keyboard)
- Telecom devices — xDSL and cable modems, switches/routers, LAN NICs, Tx/Ex line cards, other (Applications—data lines (Ethernet, USB, T1/E1, T3/E3, other), SLIC, other
- Automotive — LIN bus, other
- Current IC implementation examples; likely near-term future implementations

5. Protection Product Types, Technology Issues and Integration Trends

- Crowbar devices (diodes and ICs)
- Clamping devices (diodes, diode arrays, and ICs)
- Varistor replacement devices
- Semiconductor ESD and EMI protection technologies
- ESD protection gap
- Low voltage (sub-5V working voltage)
- Protection standards overview and trends
- Role of packaging technologies and impact on performance and margins
- Protection devices integration trends (including IC implementations)

6. Competitive Landscape and Vendor Analyses

Competitive landscape

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|-----------------------|-----------------------------|
| 1. STMicroelectronics | 5. California Micro Devices |
| 2. NXP Semiconductors | 6. Microsemi |
| 3. ON Semiconductor | 7. ProTek Devices |
| 4. Semtech | 8. Alpha & Omega |

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|-----------------------|-----------------------------|
| 9. Littlefuse | 14. Fairchild Semiconductor |
| 10. Texas Instruments | 15. Diodes |
| 11. Infineon | 16. Vishay |
| 12. Toshiba | 17. Other |
| 13. Tyco Electronics | |

LIST OF FIGURES

1. Analog Domain and Perimeter functions
2. Semtech's Financial and Related Trends
3. Semtech's End-Market Business Trends
4. Semtech's Business Trends by Product Class
5. CMD's Financial and Related Trends
6. CMD's End-Market Business Trends
7. CMD's Business Trends by Product Class
8. Semtech vs. CMD Business Comparison
9. System Level View of ESD/EFT/Surge Protection
10. ESD Protection Gap
11. Overview of ESD/EFT/Surge Protection Standards vs. Application Environments
12. Peak Current Differences between HBM and IEC61000-4-2 Standards
13. TVS Device Implementation Space
14. ESD Protection Model and Strategies
15. Semtech's EDP Technology based TVS (SLVU2.8-4)
16. Integrated EMI/ESD Protection Device (CMD's CM1690)
17. ESD Protection Device for HDMI Applications (Semtech's RClamp0524P)
18. Integrated ESD Protection for HDMI Applications (CMD's CM2031)
19. PG Segmentation of Discrete Semiconductor Devices
20. Integrated Protection Device for Memory Card Application (STM's EMIF06-SD02F3)
21. Structural Integration of Protection Devices for High Brightness (HB) LED Applications (CMD's LuxGuard technology)
22. PG Segmentation of Semiconductor Protection Devices by Device Type
23. PG Segmentation of Semiconductor Protection Devices by Application
24. Protection Devices Integration Trends
25. Market Trends for TVS Clamping Devices
26. Protection Devices Market Mapping by Representative Equipment Types
27. Protection Devices Mapping Hierarchy
28. Market Size and Growth Trends: Clamping Type Protection Devices
29. Major Pricing Determinants
30. Protection Devices Business Trends
31. Semtech's General-Purpose Protection Devices by End-Equipment Applications
32. Semtech's Protection Devices Portfolio by Product Class
33. CMD's Protection Devices Portfolio
34. CMD's LuxGuard ESD Protection Technology for HB LEDs
35. CMD SWOT Analysis
36. Semtech SWOT Analysis
37. Protection Devices Applications Mapping: Mobile Phone
38. Mobile Phone Protection Devices by Protected Component (including pricing and representative products of three vendors)
39. STM's Mobile Phone Protection Devices – Bill of Materials (excluded are Power Schottky diodes and RF section devices)
40. Protection Devices Applications by Select End-Equipment Type: Mobile Devices, Consumer, and Computer Market Niches
41. Protection Devices Applications Mapping by End-Equipment Type: Telecom Market Niche