Tamas (Thomas) Szepesi

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Employment History:

2004 - Present

Consultant

I have been doing consulting work for semiconductor companies and law firms. My consulting clients in the semiconductor industry included Adaptive Digital Power Inc., Dialog Semiconductor plc., Fyrestorm Inc., Gazelle Semiconductor, Inc., Integration Associates, Intersil Inc., Maxim Integrated Products Inc., Mobius Microsystems Inc., UMC Group (USA) and Zilker Laboratories Inc.

Representative Litigation-related Consulting work:

McDermott Will & Emery (2005)

My consulting work was related to the Monolithic Power Systems Inc. vs. O2 Micro International Ltd. Patent litigation case. I was not a testifying witness.

Dechert, LLP (2006)

I was testifying expert witness in the AATI vs. Linear Technology ITC Patent litigation case: In the matter of Certain Voltage Regulators, Components Thereof and Products Containing Same. My testimony covered matters related to US Patent 6,411,531.

Latham & Watkins LLP (2007-2008)

I was a testifying expert witness in the Linear Technology vs. Monolithic Power Systems Patent litigation case at the UNITED STATES DISTRICT COURT IN AND FOR THE DISTRICT OF DELAWARE. My testimony covered matters related to US Patent 5,481,178 and US Patent 6,580,258.

Farella, Braun + Martell LLP (2009 - 2013)

I was a testifying expert witness in the Volterra Semiconductor Corporations vs. Primarion, Inc. et al. Patent litigation case, case No. 08-5129 (N.D. Cal.). My work was related to US Patents 6,278,264, 6,462,522 and 6,713,823. I was also involved with and submitted declarations in the Exparte Reexamination of the '264 and '522 Patents (and two other Volterra patents which were not part of this litigation).

Weil, Gotshal & Manges LLP (2014)

I was a testifying expert in the Infineon Technologies AG v. Volterra Semiconductor Corporation case. Case No. CV-11-6239 (MMC) (N.D.Cal.). My work was related to US Patent 5,945,730.

Fish & Richardson P.C. (2014-2015)

I was a non-testifying expert in the *Inter Partes* Review of U.S. Patent 8,093,823 (IPR2014-00448).

2002-2004

Vice President of Engineering and Member of the Board of Directors
iWatt Inc., Los Gatos, Ca.

iWatt develops digital power controller ICs for off-line applications. I hired and built the IC development team: design, applications, system design, layout, verification, product and test engineering. Lead the debugging and release of the company's first externally designed product, the iW2201. Lead the development and design of the two second generation products, the iW2210 and iW2202. These products were fully architected and designed in-house. Both products were sampled on first silicon (with poly/metal tweaks) to lead customers in Asia with positive feedback.
I was also heavily involved in the raising of the second round of VC funding for the company. The $14M B-round funding was closed in February 2003.

1994 - 2002

Product Line Director, Power Management Group
Analog Devices Inc., San Jose, CA

Developed the Power Management Business Unit from ground zero. Built the team from 6 to 62 people. The business unit gained significant market share in the desktop PC, notebook PC and cellular phone power management markets. I held responsibility for strategy development, budgeting, resource planning, IC design, marketing, applications, test development, product engineering, and for business unit P&L. Most of our products were proprietary, sole-source products, based on leading edge technologies that were developed within the product line.
The Power Management Group was one of the fastest growing businesses of Analog Devices, with over 100% CAGR in sales from FY ’98 to FY ’00. I built the business from zero to a $62M profitable business in 6 years.

The most successful new products developed during my tenure included:

Desktop PC segment: ADP315x, ADP316x, ADP3166, ADP3412
Notebook PC segment: ADP3421/2, ADP3203/4, ADP3410, ADP3415, and ADP3806
Cellular phone segment: ADP330x, ADP333x, ADP3402/4/5/8 and ADP3502

The Power Management Product Line exceeded $100M sales in FY2004, based on the technologies and product families that were developed during my tenure.

1983 -1994

Staff IC Design Engineer, Design Manager, Senior Design Manger
Power Management Group, National Semiconductor Inc., Santa Clara, CA

Defined, designed, and managed the design of integrated circuits for the Power Management product line. By 1993 the product line became the largest business unit in the company.

Among other products, my group designed and introduced the **Simple Switcher™** DC/DC converter

family (LM2575, LM2576, LM2577, LM2587 were the first-generation products). This was the most successful product family in the history of the Analog Division of NSC until 1994. A significant component of the success of the **Simple Switcher™** power IC family was the introduction of a companion expert system design software, marketed under the name of **Switchers Made Simple™**. It was the world's first fully automated synthesis program for the design of switching regulators. This software automatically generated a guaranteed regulator design from input-output specifications. It enabled lay customers to design switching regulators, resulting in a significant market expansion. Its use radically reduced the need for factory application support. I defined and developed the synthesis algorithms that were the foundation of this software tool and lead the full development and release of the software.

1981 - 1983

Staff Application Engineer
National Semiconductor GmbH., Fuerstenfeldbruck, Germany

Worked on custom IC definitions (e.g. electronic ballast control IC) and supported the Hybrid IC product line.

1969 - 1980

Lecturer, Assistant Professor, Associate Professor in Electrical Engineering
Technical University of Budapest, Hungary

Taught undergraduate and graduate courses on analog circuit design, CAD and instrumentation at the Department of Instrumentation and Measurement Technology. I also ran a small consulting business doing contract circuit design and test instrument design.

Education:

M.Sc. in Electrical Engineering, Technical University of Budapest, Hungary
Ph.D. in Electrical Engineering, Hungarian Academy of Sciences

Publications:

Sixteen papers published at technical conferences and in technical journals. Co-authored two award winning university text books (in Hungarian) and wrote a chapter on power management ICs in an anthology published by Kluwer Academic Publishers.

Patents:

Twenty-three U.S. patents and numerous foreign patents granted.

Selected Professional Activities:

Member of the Analog Subcommittee of the International Solid State Circuit Conference (ISSCC) Program Committee from 1992 to 1994.

Lecturer and Course Organizer of the 5 day Continuing Education Course:
"Power Management" offered in the US and Europe by MEAD Education SA., Lausanne, Switzerland (from 1996 to present)

Invited Panelist at the Digital Power Forum, San Jose, Ca, 2004

Session Chair at the International Symposium on Low Power Electronics and Design (ISPLED) 2009

List of Publications

1. T. Szepesi, M. Guttermuth: "Topological Analysis of Linear Active Networks", *Hiradastechnika Journal*, Vol. 23, No. 2, Feb. 1972, pp. 56-61
2. T. Szepesi, A. Szegi: "Capacitive Liquid Level Transmitter with Pulse Counting Output", ("Impulzus-Szamossag Kimenetu Kapacitiv Folyadekszint Tavado"**),** *Meres es Automatika*, Vol. 21, No. 2, 1973, pp. 48-53
3. T. Szepesi: ("Alacsony Frekvencias Jelek Frekvenciajanak es Fazishelyzetenek Digitalis Meresi Modszerei"), "Digital Methods for Measuring the Frequency and Phase Position of Low Frequency Signals"**,** *Meres es Automatika,* Vol. 22, No. 11, 1974, pp. 429-435
4. T. Szepesi: "Stabilizing the Frequency of Hysteretic Current Mode DC/DC Converters", *PESC Record 17th Annual IEEE Power Electronics Specialists Conference*, 1986, pp. 550-559
5. T. Szepesi: "Hysteretic Current-Mode Control of Transformer-Coupled DC/DC Converters", *Proceedings of the Power Electronics Show and Conference*, Oct. 1986, pp. 60-67
6. T. Szepesi: **"**Stabilizing the Frequency of Hysteretic Current-Mode DC/DC Converters", *IEEE Trans. Power Electron.***,** Vol. PE-2, No. 4, Oct. 1987, pp. 302-312
7. J. Bittner, T. Szepesi and Y. Ying: "New Switching Regulator IC Comes With a Full Feature, Thermally Accurate SPICE Macro-Model", *Fifth Annual Applied Power Electronics Conference and Exposition Conference Proceedings*, Cat. No.90CH2853-0, 1990, pp. 451-458
8. T. Szepesi, J. Bittner, H. Santo: "On-Card DC/DC Converters with the New Simple Switcher Regulator Family", *Proceedings of Power Conversion International*, June 1990, Munich, pp. 279-298
9. T. Szepesi, J. Bittner and H. Suzuki: "Simple Switchers: a New Breed of Power+Control ICs for DC/DC Converter Applications", *Official Proceedings of the Nineteenth International Power Conversion (PCI) Conference*, 1990, pp. 437-449
10. T. Szepesi, J. Bittner and H. Santo: "Distributed Power Gets a Boost From the New Simple Switcher DC/DC Converter Family", *Power conversion & Intelligent Motion*, Vol. 16, No. 9, Sep. 1990, pp. 60, 62-65
11. T. Szepesi: "1MHz 10A Current-mode DC-to-DC Converter" *IEEE International Solid-State Circuits Conference, 1991; Digest of Technical Papers* pp. 274-275
12. F.J. De Stasi, T.S. Szepesi: "A Monolithic Boost Converter For Telecom Applications" *Proceedings of IEEE Applied Power Electronics Conference (APEC),* 1993, pp. 360-368
13. T. Szepesi, R. Frank, H. Santo and A. Rozman: "A New 1 MHz Off-Line PWM Controller Chipset With Pulse Communication for Voltage-Current and Charge-Mode Control", *Technical Papers of the Eighth International High Frequency Power Conversion Conference*, 1993, pp. 114-122
14. F.J. De Stasi, T. Szepesi: "A 5 A 100 kHz Monolithic Bipolar DC/DC Converter", *Fifth European Conference on Power Electronics and Applications*, Conf. Publ. No. 377, Vol. 2, Sep. 1993, pp. 201-208
15. T. Szepesi: "Design and Circuit Techniques of Integrated Switching Voltage Regulators", Third AACD Workshop, Eindhoven Netherlands, Mar. 1994. Also in Analog Circuit Design, Low-Power Low-Voltage, Integrated Filters and Smart Power; Editors R. J. Van de Plasche, W. M. C. Sansen and J. H. Huising; Kluver Academic Publishers © 1995, pp. 265-292 .
16. J. Buxton, T. Szepesi, Z. Zansky, D. Bowers: "Lithium Ion Battery Chargers" *Power '96 - The Fourth International Conference on Power Requirements for Mobile Computing and Wireless Communications*, October 1996, Santa Clara CA.

List of issued U.S. Patents

Patent No.	Title	Issue Date
4,535,399	Regulated switched power circuit with resonant load	13 Aug. 1985
4,645,999	Current mirror transient speed up circuit	24 Feb. 1987
4,700,285	Combined PWM-FM control method and circuit for the high efficiency control of resonant switch mode inverters/converters	13 Oct. 1987
4,904,960	Precision CMOS oscillator circuit	27 Feb. 1990
4,920,309	Error amplifier for use with parallel operated autonomous current or voltage regulators using transconductance type power amplifiers	24 Apr. 1990
4,929,882	Apparatus for converting DC to DC having non-feedback variable hysteretic current-mode control for maintaining approximately constant frequency	29 May 1990
4,975,820	Adaptive compensating ramp generator for current-mode DC/DC converters	4 Dec. 1990
5,018,041	Circuit for internal current limiting in a fast high side power switch	21 May 1991
5,155,394	Bias distribution circuit and method using FET and bipolar	13 Oct. 1992
5,229,707	Apparatus and method for eliminating false current limit triggering in a grounded source-emitter power switching circuit	20 July 1993
5,498,995	Short circuit frequency shift circuit for switching regulators	12 Mar. 1996
5,646,520	Methods and apparatus for sensing currents	8 July 1997
5,672,952	Controller for battery charger with reduced reverse leakage current	30 Sep. 1997
5,680,300	Regulated charge pump DC/DC converter	21 Oct. 1997
5,774,021	Merged transconductance amplifier	30 June 1998
5,917,319	Methods and apparatus for sensing currents	29 June 1999
7,024,649	Multi-output power supply design system	4 Apr. 2006
7,362,169	Power efficient amplifier	22 Apr. 2008
7,486,058	Circuit and method combining a switching regulator….	03 Feb. 2009
7,489,199	Saturation detector and warning circuit including clamp	10 Feb. 2009

7,868,600	Adaptive PWM pulse positioning for fast transient response	11 Jan. 2011
8,350,551	Power Supply Controller	8 Jan. 2013
9,077,198	Battery charger method and circuit	7 July 2015