

REFERENCES

Synchronous Rectification

- [A1] C. Blake, D. Kinzer, and P. Wood, "Synchronous rectifiers versus Schottky diodes: a comparison of the losses of a synchronous rectifier versus the losses of a Schottky diode rectifier," *Proc. IEEE Appl. Power Electron. Conf.*, 1994, pp. 17-23.
- [A2] M.W. Smith and K. Owyang, "Improving the efficiency of low output voltage switch-mode converters with synchronous rectification," *Proc. POWERCON 7*, 1980, p. H-4.
- [A3] R. S. Kagan, M. Chi, and C. Hu, "Improving power supply efficiency with MOSFET synchronous rectifiers," *Proc. POWERCON 9*, 1982, p. D-4.
- [A4] "MOSFETs move in on low voltage rectification," *MOSPOWER Applications Handbook*, Siliconix, 1984, pp. 5-69-6-86.
- [A5] "Using power MOSFETs as high-efficiency synchronous and bridge rectifiers in switch-mode power supplies," *MOSPOWER Applications Handbook*, Siliconix, 1984, pp. 5-87-6-94.
- [A6] W.A. Tabisz, F.C. Lee, and D.Y. Chen, "A MOSFET resonant synchronous rectifier for high-frequency dc/dc converters," *Proc. IEEE Appl. Power Electron. Conf.*, 1990, pp. 769-779.
- [A7] J. Blanc, "Practical application of MOSFET synchronous rectifiers," *Proc. IEEE Int. Telecommun. Energy Conf.*, 1991, pp. 495-501.
- [A8] J. A. Cobos, J. Sebastian, J. Uceda, E. de la Cruz, and J.M. Gras, "Study of the applicability of self-driven synchronous rectification to resonant topologies," *IEEE Power Electron. Specialists' Conf. Rec.*, 1992, pp. 933-940.
- [A9] N. Murakami, H. Namiki, K. Sakakibara, and T. Yachi, "A simple and efficient synchronous rectifier for forward dc/dc converters," *Proc. IEEE Appl. Power Electron. Conf.*, 1993, pp. 463-468.
- [A10] N. Murakami, J. Asoh, K. Sakakibara, and T. Yachi, "A high-efficiency 30-W board mounted power supply module," *Proc. IEEE Int. Telecommun. Energy Conf.*, 1991, pp. 122-127.
- [A11] J.A. Cobos, O. Garcia, J. Sebastian, J. Uceda, E. de la Cruz, and J. Millan, "Comparison of high efficiency low output voltage forward topologies," *IEEE Power Electron. Specialists' Conf. Rec.*, 1994, pp. 887-894.
- [A12] H.J. Kim and J.K. Ji, "Active clamp forward converter with MOSFET synchronous rectification," *IEEE Power Electron. Specialists' Conf. Rec.*, 1994, pp. 895-901.

- [A13] R. Blanchard, and P.E. Thibodeau, "The design of a high efficiency, low voltage power supply using MOSFET synchronous rectification and current mode control," *IEEE Power Electron. Specialists' Conf. Rec.*, 1985, pp. 355-361.
- [A14] R.A. Fisher, C.S. Korman, G.A. Franz, G. W. Ludwig, J.P. Walden, S.A. El-Hamamsy, K. Shenai, and M. Kuo, "Performance of low loss synchronous rectifiers in a series-parallel resonant dc-dc converter," *Proc. IEEE Appl. Power Electron. Conf.*, 1989, pp. 240-246.
- [A15] N. Murakami and M. Yamasaki, "Analysis of a resonant reset condition for a single-ended forward converter," *IEEE Power Electron. Specialists' Conf. Rec.*, 1988, pp. 1018-1023.
- [A16] I. Jitaru, "Constant frequency, forward converter with resonant transition," *High Freq. Power Conversion Conf., Proc.*, 1991, pp. 282-292.
- [A17] C.S. Leu, G. Hua, F.C. Lee, and C. Zhou, "Analysis and design of R-C-D clamp forward converter," *High Freq. Power Conversion Conf., Proc.*, 1992, pp. 198-208.
- [A18] B. Carsten, "Design techniques for transformer active reset circuits at high frequencies and power levels," *High Freq. Power Conversion Conf., Proc.*, 1990, pp. 235-246.
- [A19] C.S. Leu, G. Hua, and F.C. Lee, "Comparison of forward topologies with various reset schemes," *9th VPEC Seminar Proceeding*, 1991, pp. 101-108.
- [A20] Y. Khersonsky, M. Robinson, and D. Gutierrez, "New fast recovery diode technology cur circuit losses, improves reliability," *Power Conversion and Intell. Motion Mag.*, 1992, pp. 16-25.
- [A21] M.M. Jovanović, J.C. Lin, C. Zhou, M.T. Zhang, and F.C. Lee, "Design considerations for forward converter with synchronous rectifiers," *Power Conversion & Intelligent Motion Conference Proc.*, 1993, pp. 340-350.
- [A22] M.M. Jovanović, M.T. Zhang, and F.C. Lee: "Evaluation of synchronous-rectification efficiency improvement limits in forward converters," *IEEE Trans. Ind. Electron.*, vol. 42, no. 4, pp. 387-395, Aug. 1995.
- [A23] D.J. Harper, D.R. Hyde, G.M. Fry, and J.A. Houldsworth, "Controlled synchronous rectifier," *High Freq. Power Conversion Conf., Proc*, 1988, pp. 165-172.
- [A24] F.M. Barlage, "Synchronous rectification and regulation in multiple cross regulated outputs," *High Freq. Power Conversion Conf., Proc*, 1994, pp. 185-193.
- [A25] S. Ollero, E. De la Cruz, L. Alvarez, C. Garcia, "New post-regulation and protection methods for multiple output power converters with synchronous rectification," *Proc. IEEE Int. Telecommun. Energy Conf.*, 1996, pp. 462-469.
- [A26] V. Vorperian, "Quasi-square-wave converters: topologies and analysis," *IEEE Trans. on Power Electron.*, vol. 3, no. 2, pp. 183-191, April, 1988.
- [A27] D. Maksimovic, "Design of the zero-voltage-switching quasi-square-wave resonant switch," *IEEE Power Electron. Specialists' Conf. Rec.*, 1993, pp. 323-329.

- [A28] M.T. Zhang, M.M. Jovanović, and F.C. Lee, "Design considerations and performance evaluations of synchronous rectification in flyback converters," *Proc. IEEE Appl. Power Electron. Conf.*, 1997.

Utilization of Distributed Magnetics

- [B1] W. A. Tabisz, M. M. Jovanović, and F. C. Lee, "Present and future of distributed power systems," *Proc. IEEE Appl. Power Electron. Conf.*, 1992, pp. 11-18.
- [B2] G. Suranyi, "The value of distributed power," *Proc. IEEE Appl. Power Electron. Conf.*, 1996, pp. 104-110.
- [B3] B. Choi, B.H. Cho, R.B. Ridley, and F.C. Lee, "Control strategy for multi-module parallel converter system," *IEEE Power Electron. Specialists' Conf. Rec.*, 1990, pp. 225-234.
- [B4] J. Bocek and C. Liu, "Determining current sharing criterion for parallel operation of power converters in multi-module bus systems," *IEEE Power Electron. Specialists' Conf. Rec.*, 1990, pp. 870-879.
- [B5] C. Q. Lee, K. Siri, and T. Wu, "Dynamic current distribution controls of a parallel connected converter system," *IEEE Power Electron. Specialists' Conf. Rec.*, 1991, pp. 875-881.
- [B6] R.H. Wu, T. Kohama, Y. Kodera, T. Ninomiya, F. Ihara, "Load-current sharing control for parallel operation of dc-to-dc converters," *IEEE Power Electron. Specialists' Conf. Rec.*, 1993, pp. 101-107.
- [B7] B.A. Miwa, D.M. Otten, and M.F. Schlecht, "High efficiency power factor correction using interleaving techniques," *Proc. IEEE Appl. Power Electron. Conf.*, 1992, pp. 557-568.
- [B8] I.D. Jitaru, "High frequency, soft transitions converter," *Proc. IEEE Appl. Power Electron. Conf.*, 1993, pp. 880-887.
- [B9] D. Benporat, "New design equations improve continuous mode interleaved flyback converter," *Power Conversion Intell. Motion Mag.*, Apr., 1995, pp. 36-43.
- [B10] I.D. Jitaru, "The impact of low output voltage requirements on power converters," *High Freq. Power Conversion Conf., Proc.*, 1995, pp. 1-10.
- [B11] C. Jamerson and M. Barker, "1500 watt magnetics design comparison: parallel forward converter vs dual forward converter," *High Freq. Power Conversion Conf., Proc.*, 1990, pp. 347-358.
- [B12] F.S. Tsai and W.W. Ng, "A low-cost, low-loss active voltage-clamp circuit for interleaved single-ended forward PWM converter," *Proc. IEEE Appl. Power Electron. Conf.*, 1993, pp. 729-733.
- [B13] N. Murakami and M. Yamasaki, "Analysis of a resonant reset condition for a single-ended forward converter," *IEEE Power Electron. Specialists' Conf. Rec.*, 1988, pp. 1018-1023.

- [B14] C.S. Leu, G. Hua, F.C. Lee, and C. Zhou, "Analysis and design of R-C-D clamp forward converter," *High Freq. Power Conversion Conf., Proc.*, 1992, pp. 198-208.
- [B15] M.W. Smith, s. Owyang, "Improving the efficiency of low output voltage switch-mode converters with synchronous rectification," *Proc. POWERCON 7*, 1980, p. H-4.
- [B16] M.T. Zhang, F.C. Lee, and M.M. Jovanović, "Analysis, design, and evaluation of forward converter with distributed magnetics — interleaving and transformer paralleling," *Proc. IEEE Appl. Power Electron. Conf.*, 1995, pp. 315-321.

Thermal Analysis

- [C1] C. Soule, "Yesterday's cooling won't work on tomorrow's electronics," *Power Conversion Intell. Motion Mag.*, Nov., 1994, pp. 34-36.
- [C2] C. Lasance, "Accurate temperature prediction in consumer electronics: a must but still a myth," *Cooling of Electronic System*, pp. 825-858. Dordrecht: Kluwer Academic Publishers, 1994.
- [C3] A. Bar-Cohen, A.D. Kraus, "Thermal considerations in the packaging of electrical and electronic components," *The Winter Annual Meeting of the American Society of Mechanical Engineers, Proc.*, 1981, pp. 1-9.
- [C4] C. Lasance, "Optimisation of forced convection cooled electronic systems, an experimental study," *Ninth International Heat Transfer Conf., Proc.*, 1990, vol. 2, pp. 307-312.
- [C5] T. Kordyba, "Estimating the influence of PCB and component thermal conductivity on component temperature in natural convection," *Third Flotherm Users' Conf., Proc.*, 1994.
- [C6] C. Lasance, "Pragmatic Methods for Determining the Parameters Required for the Thermal Analysis of Electronic Systems," *Cooling of Electronic System*, pp. 859-897. Dordrecht: Kluwer Academic Publishers, 1994.
- [C7] B. A. Smetana, G. Venkataramanan, "Advanced thermal management for high density distributed power systems," *High Freq. Power Conversion Conf., Proc.*, 1995, pp. 27-32.
- [C8] R. Blattner, W. McDaniel, "Thermal management in on-board dc-to-dc power conversion," *High Freq. Power Conversion Conf., Proc.*, 1995, pp. 73-85.
- [C9] P. Cirese, "Examples of applications of a finite element computer program to the analysis and design of cooling of electronic equipments," *Sixth International Conference on Numerical Methods in Thermal Problems, Proc.*, 1989, pp. 1442-1455.
- [C10] K. Kierberg and D.R. Grafham, "Thermal performance and cost guide surface mounting method for D³PAK power semiconductors," *Power Conversion Intell. Motion Mag.*, Nov., 1995, pp. 8-22.
- [C11] S. Edwards and H. Hinshar, "Improved heat sink and cooling air reduces heat sink size," *Power Conversion Intell. Motion Mag.*, Nov., 1995, pp. 52-54.

- [C12] Ch. Schaeffer, J-P. Ferrieus, R. Perret, and B. Beymond, "Thermal simulation in power electronics," *Proc. IEEE Appl. Power Electron. Conf.*, 1992, pp. 780-784.
- [C13] C. Lasance, "About the validation of CFD analysis of electronic system," *Third Flotherm Users Conf., Proc.*, 1994.
- [C14] J.T. Hsu, L. Vu-Quoc, "A rational formulation of thermal circuit models by finite element method and model reduction techniques for electro-thermal simulation," *IEEE 4th Workshop on Computers in Power Electronics.*, 1994, pp. 67-72.
- [C15] J.F. Stelzer, "About the graphical representation of temperature field calculation results," *Sixth International Conference on Numerical Methods in Thermal Problems, Proc.*, 1989, pp. 1313-1324.
- [C16] T. Lee and M. Mahalingam, "Application of a CFD tool for system-level thermal simulation," *IEEE Trans. on Comp. Pack. & Manu. Tech. - Part A.* vol. 17, no. 4, Dec. 1994, pp. 564-571.
- [C17] T. Lee, B. Chambers, and M. Mahalingam, "Application of CFD technology to electronic thermal management," *Proceedings of 44th Electronic Components & Technology Conf., Proc.*, 1994, pp. 411-420.
- [C18] R. Parales Jr., "Solving the thermal design concerns of a low-voltage power supply using CFD modeling," *Proceedings of Flotherm Users' Conf., Proc.*, 1993.
- [C19] R. Ridley, M. Reynell, and S. Kern, "Thermal considerations for distributed Power converter systems," *Proc. IEEE Appl. Power Electron. Conf.*, 1993, pp. 866-872.
- [C20] A.D. Walker and D. Williams, "Thermal design considerations in the design and application of dc-dc converters," *Proc. IEEE Appl. Power Electron. Conf.*, 1996, pp. 990-996.
- [C21] G. Lazzaro, S.C. Yao, W. Nicholas, W. Jehu, "Thermal analysis software predicts power supply component temperatures," *Power Conversion Intell. Motion Mag.*, Nov., 1994, pp. 48-50.
- [C22] D.J. Dean, "Systematic procedures for electronic thermal design," *Sixth International Conference on Numerical Methods in Thermal Problems, Proc.*, 1989, pp. 1466-1476.
- [C23] G. Crowe, "Thermal analysis and optimization of a small, high density dc power system by finite element analysis (FEA)," *Proc. IEEE Int. Telecommun. Energy Conf.*, Oct. 1996, pp. 718-722.
- [C24] Michael T. Zhang, Milan M. Jovanović, and Fred C. Lee, "Design and Analysis of Thermal Management for High-Power-Density Converters in Sealed Enclosures," *Proc. IEEE Appl. Power Electron. Conf.*, 1997.

EMI Analysis

- [D1] D.F. Knurek, "Reducing EMI in switch mode power supplies," *Proc. IEEE Int. Telecommun. Energy Conf.*, 1988, pp. 411-420.
- [D2] F.L. Zollner, "EMI considerations for high frequency power supplies," *High Freq. Power Conversion Conf., Proc.*, 1992, pp. 103-111.
- [D3] R. Redl, "Power electronics and electromagnetic compatibility," *IEEE Power Electron. Specialists' Conf. Rec.*, 1996, pp. 7-14.
- [D4] F. Costa, E. Laboure, F. Forest, and S. Lefebvre, "Quantification and minimization of conducted interferences generated in hard switching and zero current switching cells," *Proc. IEEE Appl. Power Electron. Conf.*, 1994, pp. 615-621.
- [D5] P. Caldeira, R. Liu, D. Dalal, and W.J. Gu, "Comparison of EMI performance of PWM and resonant power converters," *IEEE Power Electron. Specialists' Conf. Rec.*, 1993, pp. 134-140.
- [D6] D. Zhang, D.Y. Chen, and F.C. Lee, "An experimental comparison of conducted EMI emission between a zero-voltage transition circuit and a hard switching circuit," *IEEE Power Electron. Specialists' Conf. Rec.*, 1996, pp. 1992-1997.
- [D7] J.L. Yarbrough, "Circuit layout planning for high frequency power converters," *High Freq. Power Conversion Conf., Proc.*, 1994, pp. 404-417.
- [D8] M.K.W. Wu, C.K. Tse, and P. Chan, "An integrated CAD tool for switching power supply design with electromagnetic interference prediction," *Proc. IEEE Appl. Power Electron. Conf.*, 1996, pp. 340-346.
- [D9] E. Laboure, F. Costa, C. Gautier, W. Melhem, "Accurate simulation of conducted interferences in isolated dc to dc converter regarding to EMI standards," *IEEE Power Electron. Specialists' Conf. Rec.*, 1996, pp. 1973-1978.
- [D10] F. Klotz, J. Petzoldt, and H. Volker, "Experimental and simulative investigations of conducted EMI performance of IGBTs for 5-10kVA converters," *IEEE Power Electron. Specialists' Conf. Rec.*, 1996, pp. 1986-1991.
- [D11] D.A. Willima, "A tutorial on EMI characterization of switching regulators," *Proc. IEEE Appl. Power Electron. Conf.*, 1996, pp. 333-339.
- [D12] W.C. Ho and M.H. Pong, "Analysis and design of printed windings of power transformers using partial inductance method," *Proc. IEEE Ind. Electron. Control Instrum.* 1995, pp. 376-380.
- [D13] W. Zhang, M.T. Zhang, and F.C. Lee: "Conducted EMI Analysis of a Boost PFC Circuit," *14th VPEC Seminar*, 1996.
- [D14] C. Basso, "Spice predicts differential conducted EMI from switching power supplies," *EDN*, Feb. 3, 1997, pp. 191-204
- [D15] IEEE Std. 519-1992: IEEE recommended practices and requirements for harmonic control in electrical power systems.

- [D16] J.P. Flood, "Regulatory changes in the European Union and the impact upon the US power supply design industry," *High Freq. Power Conversion Conf., Proc.*, 1995, pp. 354-365.
- [D17] A. E. Ruehli, "Equivalent circuit models for three-dimensional multiconductor systems," *IEEE Trans. Microwave Theory Tech.*, vol. MTT-22, no. 3, pp. 216-221, Mar. 1974.
- [D18] H. Heeb and A. E. Ruehli, "Three-dimensional interconnect analysis using partial element equivalent circuits," *IEEE Trans. Circuits Systems*, vol. 39, no. 11, pp. 974-982, Nov. 1992.
- [D19] A. E. Ruehli, "Inductance calculations in a complex integrated circuit environment," *IBM J. Res. Develop.*, vol. 16, pp. 470-481, Sept. 1972.
- [D20] J. Roudet, J.L. Schanen, and R. Perret, "Interconnect modeling in power electronics structures," *submitted to IEEE Trans. Power Electron.*
- [D21] A. E. Ruehli and P. A. Brennan, "Efficient capacitance calculations for three-dimensional multiconductor system," *IEEE Trans. Microwave Theory Tech.*, vol. MTT-21, no. 2, pp. 76-82, Feb. 1973.
- [D22] E. Bogatin, "Design rules for microstrip capacitance," *IEEE Trans. Components, Hybrid, and Manufacturing Technology*, vol. 11, no. 3, pp. 253-259, Sept. 1988.
- [D23] B. Cogitore, J.P. K radec, J. Barbaroux, "The two-winding transformer: an experimental method to obtain a wide frequency range equivalent circuit," *IEEE Trans. on Instr. & Meas.*, vol. 43, no. 2, pp. 364-371, April., 1994.
- [D24] F. Shih, D.Y. Chen, Y. Wu, and Y. Chen, "A procedure for designing EMI filters for ac line applications," *IEEE Trans. on Power Electron.*, vol. 11, no. 1, pp. 170-181, Jan., 1996.

General

- [E1] G. Hua and F.C. Lee, "Soft-switching PWM converter technologies," *Jour. of Circuits, Systems, and Computers*, vol. 5, no. 4, 1995, 531-558.
- [E2] N. Dai, "Modeling, analysis and design of high-frequency, high-density, low-profile transformers", *Ph. D. Dissertation*, Virginia Tech, 1996.
- [E3] D.S. Steinberg, *Cooling techniques for electronic equipment*. New York: John Wiley & Sons, 1980.
- [E4] G. Kuzmin, "Thermal management vs. thermal engineering," *First Annual Portable Design*, pp. WS26-WS30.
- [E5] A.D. Kraus, A. Bar-Cohen, *Design and Analysis of Heat Sinks*. New York: John Wiley & Sons,.

- [E6] M.J. Marongiu, "Some issues in experimental testing and methodologies in the thermal management of telecommunication components," *Proc. IEEE Int. Telecommun. Energy Conf.*, 1995, pp. 834-838.
- [E7] *Flotherm[®] Instruction Manual*, Flomerics Limited, Surrey, England, 1995.
- [E8] L. Huber and M.M. Jovanović, "Evaluation of Flyback Topologies for Notebook AC/DC Adapter/Charger Applications," *Proceedings of High Frequency Power Conversion*, May 1995, pp. 284-294.
- [E9] J. A. Ferreira, *Electromagnetic modeling of power electronic converters*. Boston: Kluwer Academic Publishers.
- [E10] H. W. Ott, *Noise reduction techniques in electronics systems*. New York: John Wiley & Sons, 1988.
- [E11] E. Clavel, "InCa, Prédétermination des inductance de câlage par la méthode PEEC," LEG/ENSIEG (CNRS URA 355), Mar. 1995.
- [E12] *3D Parameter Extractor, Users' Reference Manual*, Ansoft, 1993.