



Current Sources & Voltage References

Linden T. Harrison



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CURRENT SOURCES & VOLTAGE REFERENCES

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CURRENT SOURCES & VOLTAGE REFERENCES

DEDICATION

This book is dedicated to the memory of these eight outstanding pioneers, now passed away, but whose contributions to the semiconductor industry have been immeasurable:

Robert J. Widlar

Legendary analog IC designer and engineer. Created the first monolithic op amps, bandgap voltage references, current sources, and linear regulators. In 1981 co-founded Linear Technology Corp. with friends Robert Dobkin, George Erdi, and Robert Swanson.

David Talbert

Widlar's processing specialist at both Fairchild Semiconductor, then later at National Semiconductor. He transformed Widlar's revolutionary designs into real silicon devices, and created the first "super beta" transistors that are used in bipolar analog ICs.

Dr. Robert Noyce

Physicist, and co-inventor of the IC (planar design) in 1964. Created several types of alloy transistors. Co-founded Fairchild Semiconductor, Intel, Sematech, and the Semiconductor Industry Association. Previously worked with Nobel Laureate, Dr. Shockley. Oversaw the development of Intel's earliest microprocessor and memory products.

Dr. Jean Hoerni

Swiss-born physicist, mathematician, and semiconductor researcher. Invented the all-important Planar™ process (1959), and created some of the first silicon BJTs and JFETs. Previously worked with Nobel Laureate, Dr. Shockley. Co-founder of Fairchild Semiconductor, Teledyne Amelco, Union Carbide Electronics, and Intersil.

Dr. Willis Adcock

Chemist, and semiconductor researcher. In 1954 he created the industry's first silicon-based semiconductor material at Texas Instruments Inc., who then introduced the world's first silicon transistors. Dr. Adcock later recruited Jack Kilby, who went on to co-invent the IC (mesa design), and receive the Nobel Prize for physics in 2000.

Dr. Karl Lark-Horovitz

Austrian-born chemist, physicist, and materials researcher. Led the Physics Dept. at Purdue University for several decades. It was his work with germanium during WWII, that enabled making the most durable rectifiers available, for military radar systems.

Dr. Russell Ohl

Chemist, materials researcher, and HF radio pioneer at AT&T Bell Labs. Discovered the PN junction, and created the first silicon diodes in 1940. Invented the modern solar cell.

Dr. Julius E. Lilienfeld

German-born physicist, researcher, and US Patent-holder (1930), who laid the foundations for the voltage-controlled FET. Also invented the electrolytic capacitor.

"Tall oaks from little acorns grow"

David Everett (1769 - 1813)

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Co-founder and CTO—**Linear Technology Corporation**

Inventor of the buried-zener voltage reference

Inventor of the monolithic temperature sensor

Co-inventor of the first commercial bandgap voltage reference

Creator of the first high-speed monolithic op amp

Creator of the first adjustable linear voltage regulator

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lindenh248@aol.com

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