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Sommario/riassunto	The BaSIC topology is a revolutionary method for controlling power semiconductor devices. It enables monitoring the current flow through

the devices while providing a unique current limiting capability that enhances their short-circuit withstand capability. The book describes the BaSIC topology concept and contrasts it with previous approaches. It provides an extensive description of the application of the BaSIC topology to silicon IGBTs, silicon carbide power MOSFETs, and GaN HEMT devices. The ability to extend the short-circuit withstand time to over 10 ms for SiC power MOSFETs has been achieved for the first time with the BaSIC topology. The BaSIC topology is the only approach shown to eliminate the failure of these devices under repetitive short-circuit events. The sensing of current in paralleled devices is demonstrated, eliminating the need for external sensors. The BaSIC topology has utility for various power electronics applications, including electric vehicles and industrial motor drives. Introduces the BaSIC topology – a revolutionary new approach for the control of power devices; Describes the application of the BaSIC topology to silicon IGBTs, silicon carbide power MOSFETs, and GaN HEMT devices; Written by the inventor of the insulated-gate bipolar transistor (IGBT) and the BaSIC topology concept.