Silicon carbide (SiC) has long been recognized as an ideal semiconductor for power electronics because of its wide bandgap, high critical field, high-quality native oxide (SiO2), and the availability of single-crystal SiC substrates. SiC diodes entered commercial production in 2002, and have accumulated hundreds of billions of hours in the field with a failure rate 10x lower than silicon parts they replace. SiC power MOSFETs entered production in 2011, and are now offered by multiple vendors in Europe, Asia, and the US. The worldwide SiC market is currently $300 million per year, and is projected to exceed $600 million by 2021. Spurring this growth is the availability of high-quality 150 mm 4H-SiC wafers that can be processed on fully depreciated 6” silicon production lines. SiC power devices have made great progress over the past several years, but SiC technology is still in its adolescence, and progress is expected to accelerate in coming years as material quality improves, production volume increases, and device innovation takes hold. In this tutorial I will discuss three SiC power devices: the JBS diode, power MOSFET, and IGBT. I will describe the operating physics and current status of each, review material and performance limitations, and highlight current research leading to the next generation of SiC power devices.