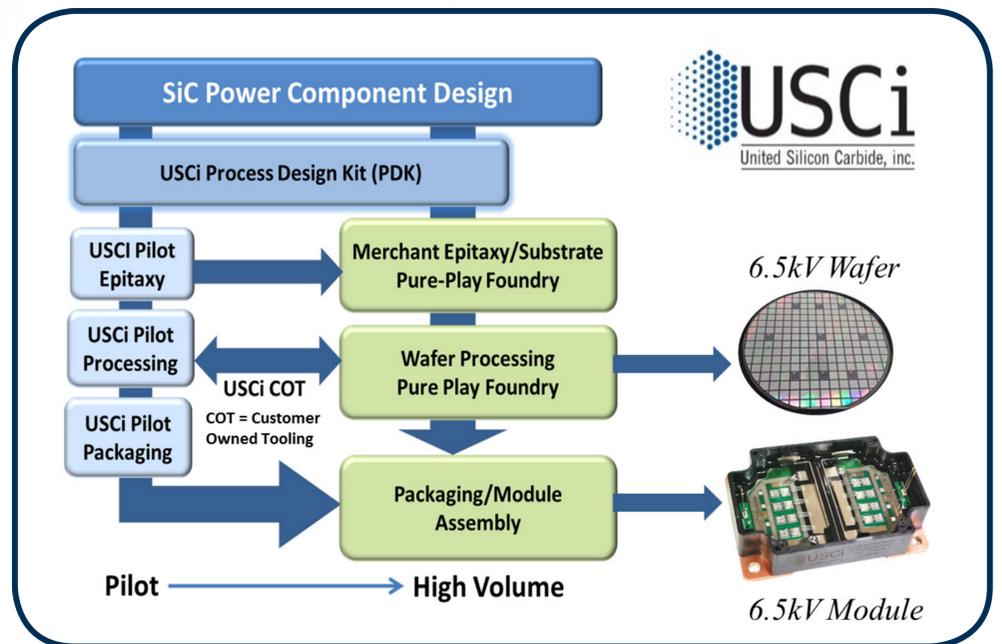




# 6.5kV Enhancement-Model Silicon Carbide JFET Switch

The novel 6.5kV SiC device and power module represent the world's highest-voltage module based on reliable, normally-off SiC JFETs. It reduces switching losses over that of Si-IGBTs by a factor of 20 and exhibits the fastest turn-on and turn-off of any 6.5kV-rated power module.

Another major aspect of what makes this product unique is USCi's development and manufacturing approach. JFETs are simple transistor switches, yet for SiC materials, a high-yield process has eluded manufacturers for years. The typical approach was to build a small fab and try and solve processing challenges before scaling to high-end, very expensive equipment. USCi looked at high-yield processes offered by mature pure-play wafer foundries and integrated our patented JFET design within those tools' capabilities. We started with lower-voltage (1.2kV) devices and were able to scale the processes up to 6.5kV very quickly and create the world's highest-voltage enhancement-mode SiC JFET.



The novel USCi processes combined with the foundry approach has made the new SiC 6.5kV technology available today and sets the stage for emerging markets such as distributed and renewable energy resources, while improving efficiency for a future smart grid revolutionized by power electronics.

