

Design Tool Helps Identify Optimal SiC FET Design Solutions

[UnitedSiC](#)'s FET-Jet Calculator is a simple, registration-free online tool that facilitates selection and performance comparison in different power applications and topologies. This new tool allows engineers to make design decisions quickly and with confidence, according to the vendor.

In order to identify the optimal UnitedSiC device for their power design, users select their application function and topology, enter their design parameter details, and the tool automatically calculates switch current, efficiency, and losses, categorized by conduction, turn-on, and turn-off contributions. Operating temperature and heatsink rating are included as inputs, to show expected operating junction temperatures (see the figure).

Users can explore the effect of changing conduction modes in the various topologies by varying storage inductor and switching frequency values. Additionally, single or paralleled devices can be selected to show relative overall performance of devices with various current ratings.

The tool warns if a selection is not appropriate, such as when voltage rating is insufficient for the conditions and topology chosen, helping the user to rapidly arrive at a viable solution.

All UnitedSiC FETs and Schottky diodes can be selected from sortable tables, which include devices in TO-220, TO-247, TO-247/4L, DFN8x8 packages and the recently launched Gen 4 750-V devices.

Anup Bhalla, VP Engineering at UnitedSiC, comments, "Selecting the right device in the right power topology shouldn't be a barrier to power designers considering the switch to SiC. This is why we built the FET-Jet Calculator. For engineers working with SiC for the first time, or those looking for the best SiC device to fit evolving designs, the calculator is a quick and easy way to evaluate UnitedSiC FETs in a variety of power topologies—speeding up R&D by avoiding any wasted time creating advanced simulations for inappropriate devices. Just a few clicks put you on the right heading to arrive at an optimum design."

The UnitedSiC FET-Jet Calculator can be found on the company's [website](#).

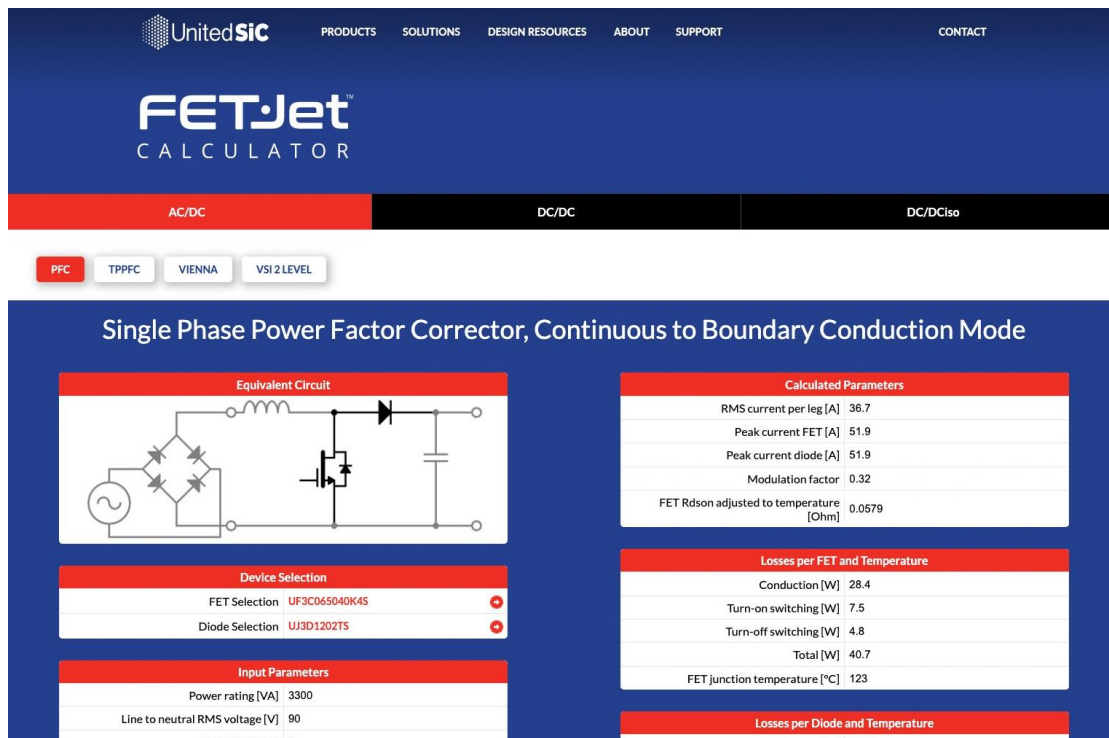


Figure. The FET-Jet Calculator helps power designers evaluate UnitedSiC devices in a variety of circuit topologies and quickly focus in on the most promising solutions. It is free, easy to use and provides the data needed to make design decisions quickly and confidently, according to the vendor.