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Robspcb-Blog-#7-TI-Webench

Title
Excerpt

Texas Instruments has a great Online tool, TI Webench to design Voltage Regulators and more. It makes it seamlessly easy to customize a DC Regulator for example. It's huge, cool, a time saver.

Content

Texas Instruments has a great Online tool, TI Webench to design Voltage Regulators and more. It makes it seamlessly easy to customize a DC Regulator for example. Or a LED driver, or a DDR4 power supply. Lets you pick parts. Simulate too. And a important part is, ECAD file output, Schematic and board file. They support Cadence Allegro, Pads PCB and Eagle files. You get a nice PDF output to, with the circuit specs, a Bill of Material BOM. Even a Netlist and footprints / symbols to get started. Certainly the translators could use and update. The scripts were 16.3. Does run on 16.6. But you need to install a TI webench tool first. Did not have any luck in orcad/allegro 17.2. Because of that, I ended up, designing a view Voltage Regulators from the paper printout, instead of using the translator script files. Still, a marvelous Online tool for all Electrical Engineers. Sure they are some folks who love linear, and do the leg work with spice simulator. Maxim has some nice chips too. But to have a Online tool and cad output files, is certainly a huge time saver. TI as a comprehensive chipset. Checkout the LM25141 and the TPS543C20 switching regulators. For the example screen shots, I just picked a simple switcher LM3150. It does not mean, you don't need to do any homework. Or that it will work of the bat. But it will get you in the ballpark. And give you an idea, on what you might run it. For efficiency or thermal, heat, cost, board Realestate and more. It is immensely helpful. Don't forget the Cad file output, for schematic, symbols, footprints and even a start board.

Buck

LM3150

Webench TI-353

low component count

simple switcher

HTSSOP

LM25141

current mode

AEC-E100

Low Standby Mode
IQ: 35 µA Typical

LM25145

voltage mode

Versatile Synchronous Buck DC-DC Controller
Wide Input Voltage Range of 6 V to 42 V
Adjustable Output Voltage From 0.8 V to 40 V
Meets EN55022 / CISPR 22 EMI Standards
Lossless RDS(on) or Shunt Current Sensing

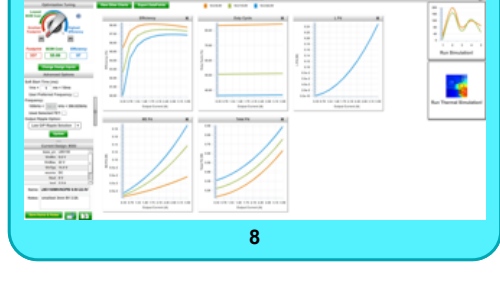
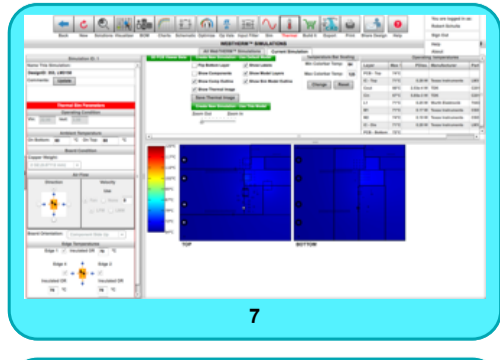
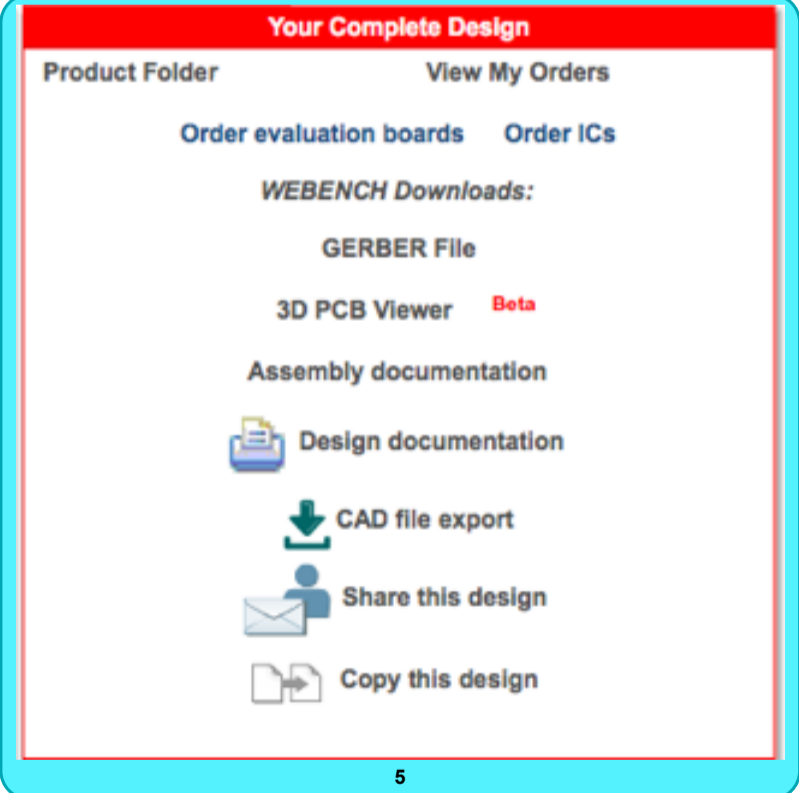
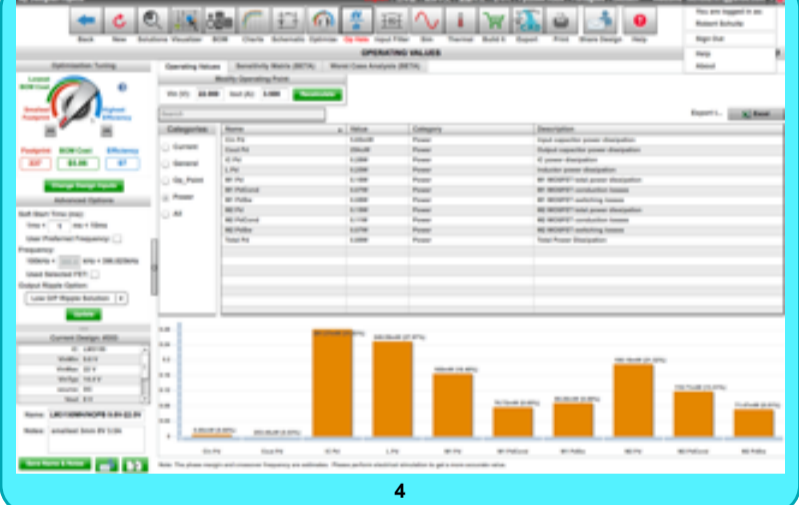
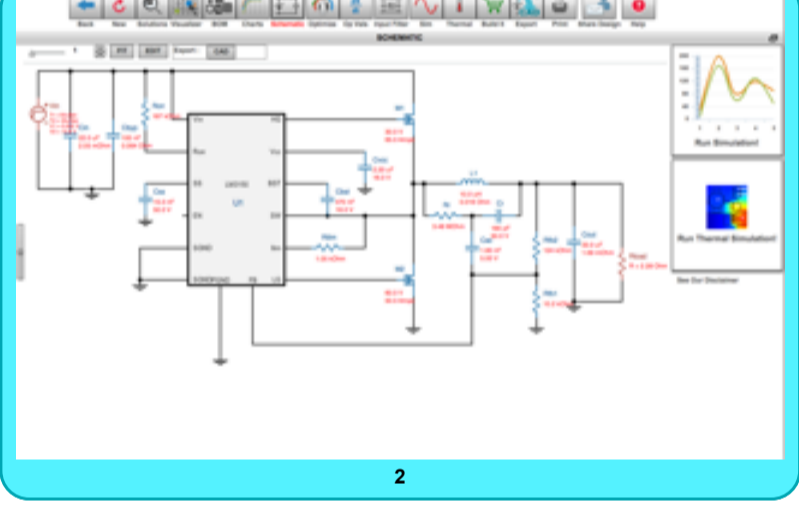
TPS543C20

White Paper

Achieve ultra-fast transient response AND true fixed frequency with Internally-compensated Advanced Current Mode.

180-W, Dual-Channel, Step-Down Converter Reference Design with 97% Efficiency for Server PSU

Screenshots



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