

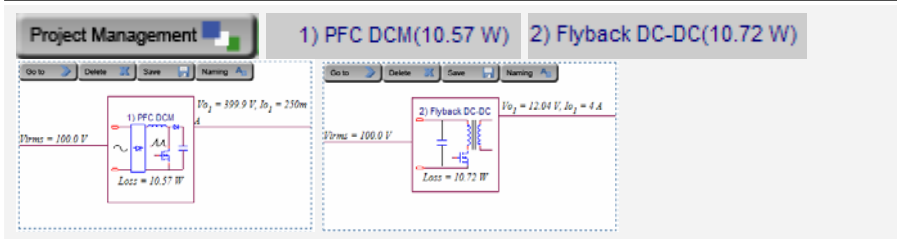


Design Steps	Getting Start with powerEsim	Details																								
<p>Goto powerEsim.com</p>	<p style="text-align: center;">Free User</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Free User</p> <p style="text-align: center;">Loss^e SIM Magnetic Builder</p> <p style="text-align: center;">DVT^e SIM BOM Builder</p> <p style="text-align: center;">Loop^e SIM Wav^e form</p> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> <p style="text-align: center;">Login User</p> <p style="text-align: center;">Therm^e SIM Life^e SIM</p> <p style="text-align: center;">Component Builder Harmonic^e SIM</p> </div> </div>	<ol style="list-style-type: none"> 1) 10 Fully integrated analysis tools 2) 70% of features are free. 3) Login to access the rest 30% 																								
<p>Choose Topology</p>		<p>More than 30 topologies for any power, voltage, and current available to be chosen.</p>																								
<p>Then Choose PWM Block</p>		<p>Different manufacturer PWM controller circuit is provided. Generic PWM controller also provided for greatest feasibility.</p>																								
<p>Just Press Initialize Design</p>		<p>Only Input voltage, output voltage and current will be asked</p>																								
<p>Wait 3 Sec.</p>		<p>0.1s for a steady state simulation with absolute convergence</p>																								
<p>Click Loss Analysis - Loss^e SIM</p>	<table border="1"> <tr> <td>BD1</td> <td>2 A 800 V RS206M RECTRON RS-2M</td> <td>505.8m W</td> </tr> <tr> <td>M1</td> <td>385m Ω 600 V 9 A IPP60R385CP INFINEON TO-220</td> <td>457.2m W</td> </tr> <tr> <td colspan="2" style="text-align: right;"><i>Conduction Losses</i></td> <td>(222.7m W)</td> </tr> <tr> <td colspan="2" style="text-align: right;"><i>Switching Losses</i></td> <td>(234.5m W)</td> </tr> </table>	BD1	2 A 800 V RS206M RECTRON RS-2M	505.8m W	M1	385m Ω 600 V 9 A IPP60R385CP INFINEON TO-220	457.2m W	<i>Conduction Losses</i>		(222.7m W)	<i>Switching Losses</i>		(234.5m W)	<p>Click the blue component button to enter computer selection UI for choosing other component.</p>												
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<p>Start Optimize losses</p>		<p>By using ↑↓ key to select best component by it's own losses and stress shown.</p>																								
<p>Trim cross regulation – Magnetic Builder</p>		<p>Build real transformer by real core, wire and tape for losses and regulation</p>																								
<p>Save & Load Your Design</p>		<p>Save this temporary design in user's own computer</p>																								
<p>Run Thermal Simulation Therm^e SIM</p>		<p>Pick and place the well thermal modeled parts onto the PCB and click, thermal result will be know within 5s.</p>																								
<p>Check DVT Report DVT^e SIM</p>	<table border="1"> <tr> <td>CB</td> <td>150uF 400V DC 105°C 2000hrs 25x36mm HS CAPXON 20%</td> <td>Vpk</td> <td>116.9V</td> <td>400V</td> <td>950m</td> <td>Pass</td> <td></td> </tr> <tr> <td></td> <td></td> <td>Irms</td> <td>1.406A</td> <td>980mA</td> <td>800m</td> <td>Warning</td> <td>You may need to select a capacitor having higher ripple current rating.</td> </tr> <tr> <td></td> <td></td> <td>Tj</td> <td>60°C</td> <td>105°C</td> <td>1</td> <td>Pass</td> <td></td> </tr> </table>	CB	150uF 400V DC 105°C 2000hrs 25x36mm HS CAPXON 20%	Vpk	116.9V	400V	950m	Pass				Irms	1.406A	980mA	800m	Warning	You may need to select a capacitor having higher ripple current rating.			Tj	60°C	105°C	1	Pass		<p>Check any reject, warning on any parts to make sure no over stress.</p>
CB	150uF 400V DC 105°C 2000hrs 25x36mm HS CAPXON 20%	Vpk	116.9V	400V	950m	Pass																				
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<p>MTBF or Life Life^e SIM</p>	<table border="1"> <tr> <td>Simulated Overall Failure Rate</td> <td>= 3.801 failures/10⁶ hours</td> </tr> <tr> <td>Simulated Overall MTBF</td> <td>= 263.1k hours</td> </tr> <tr> <td>Simulated Overall Life Time</td> <td>= 32k hours</td> </tr> </table>	Simulated Overall Failure Rate	= 3.801 failures/10 ⁶ hours	Simulated Overall MTBF	= 263.1k hours	Simulated Overall Life Time	= 32k hours	<p>Ensure the quality by MTBF and Life of the power supply.</p>																		
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<p>Finally Stabilize the loop Loop^e SIM</p>		<p>Trim the loop stability by changing circuit value or simple press "Automatic Compensation"</p>																								



Features **Advanced features of powerEsim** **Details**

Project Management



User can build complex power supply by using a group of single power supply.

Add Parts

Component Type	Ref	Add
Select Component Type		Add

User can add extra parts in their BOM for thermal, MTBF or DVT analysis.

Component Data Base

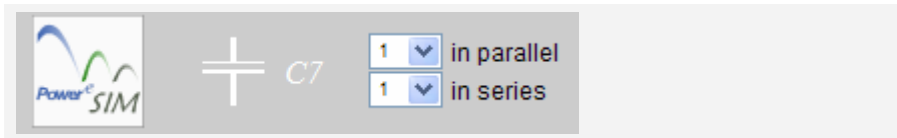
Manufacturer	any	VISHAY	FERROXCUBE	SAMWHA
Comp	any	EVOXRIFA	NICERA	JAMICON
Component	HITACHI	VISHAY_ROEDERSTEIN	SAMWHA	UNICON
	IR	MURATA	MICROMETALS	SANYO
	ON_SEMI	NICHICON	PowerESim	CAPXON
	INFINEON	NCC	GROUPARNOLD	AVX
	PowerESim	RUBYCON	MAGNETICS	PowerESim
	FAIRCHILD_SEMI	WIMA	TOKIN	VISHAY_SPRAGUE
	VISHAY_SILICONIX	EPGOS	ACME	ARCOTRONICS
	IXYS	SAMWHA	TDK	KEMET

More than 130,000 Components are electrically and thermally modeled.

Build Custom Component
Component Builder

User can build their own component database by using our non-linear modeling module.

Series or Parallel Components



Component can be connected in series or in parallel.

Loss optimization

Smart Optimizer will perform GA optimization for losses against a data pool of different component chosen.

Export Report

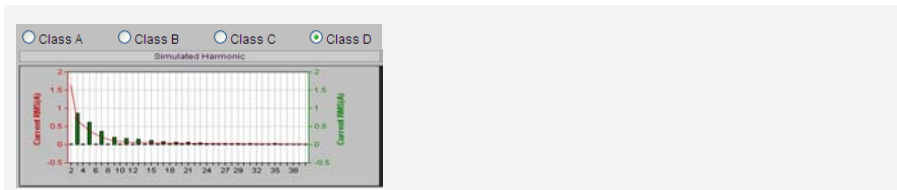
Export Excel format for documentation.

Transformer Drawing



Transformer drawing is automatically generated to save engineer resource. Customize drawing is also possible.

Input Harmonic Current
Harmonic SIM



Check Input Harmonic Current Content comply with international standard

Accuracy



Proven bench accuracy by experiment and engineer from power supply manufacturer.