



FRENETIC

FEEL IT

FRENETIC APPLICATION EXAMPLE

TRANSFORMER DESIGN FROM THE APPLICATION NOTE AN3106 FROM ST

Magnetic components are the actual bottleneck for improving the power density in power conversion. For that reason in SPC we have created Frenetic. Frenetic is able to provide a working design without iterations needed in less than a week. In this document, a transformer used in the application note AN3106 of ST is introduced with the aim of show the optimized result provided by Frenetic in less than 10 hours.

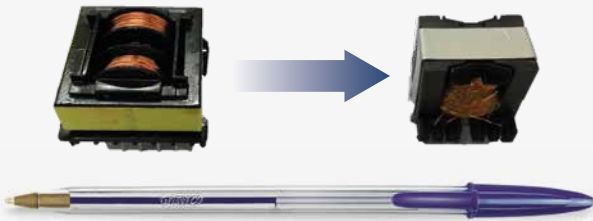
COMPARATIVE RESULT WITH THE ST APP NOTE TRANSFORMER

<p>“ 10 machine labor hours</p>	<p>Volume ↓ 15% From 7640 mm³ to 6530 mm³</p>	<p>Weight ↓ 10% From 40 g to 36 g</p>	<p>Cost ↓ € Designed in less than 1 week</p>	<p>Less losses At all operating points</p>
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DESIGN COMPARISON

ST APP Note Design

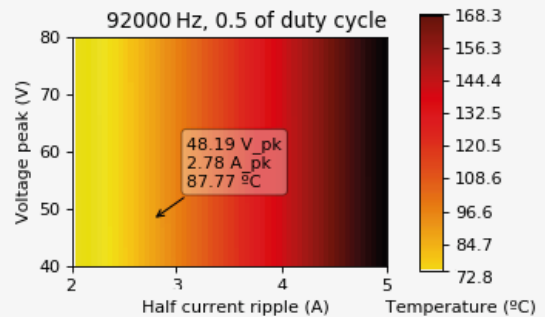
FRENETIC Design



Core: **ETD34**
Material: **PC44**

Core: **PQ26/25**
Material: **3C97**

FRENETIC temperature prediction



EXPERIMENTAL RESULTS

Both transformers were tested, during 30 minutes at 100% of load, to study the evolution of the temperature. As it is shown in the pictures, the Frenetic solution has better thermal response with smaller size. This design can decrease up to 25% the cost of each piece.

