Powering the future of Pulsed Field Ablation with rapid modifications of SL NGB800 and High Power C Series.

INDUSTRY	SOLUTION	EQUIPMENT
Electrosurgery	UltraVolt® High Power C and SL Power™ NGB Family	Pulsed Field Ablation

BACKGROUND

Pulsed field ablation uses high voltage electrical pulses to cause nonthermal irreversible electroporation and induce cell death. Pulsed field ablation may have effectiveness comparable to traditional catheter ablation while preventing thermally mediated complications. Numerous medical devices companies are investing in development of next generation PFA devices.

CHALLENGE

A major medical device company was designing a novel Pulsed Field Ablation System utilizing a non-thermal energy source with proprietary high voltage electric fields to overcome challenges of traditional temperature-based ablation modalities. They required a single output CF rated AC-DC power supply as well as a high voltage DC-DC converter for a capacitor charging application.

Due to the customers unique approach to Pulsed Field Ablation, they needed a vendor with deep application knowledge and exceptional engineering support to modify standard products to meet their specific technical requirements.

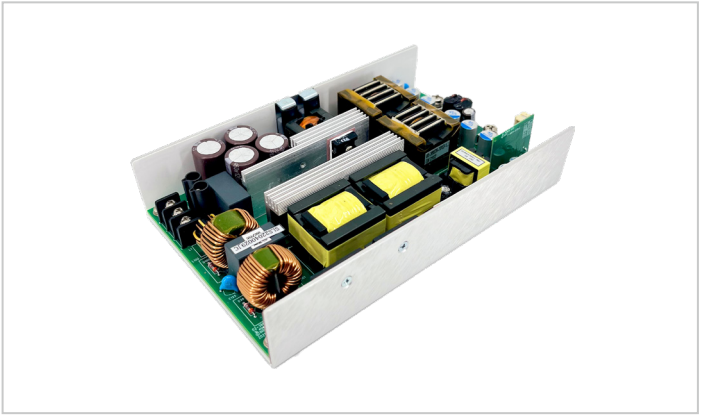

Fig. 1 SL Power NGB800 Family Single Output AC-DC

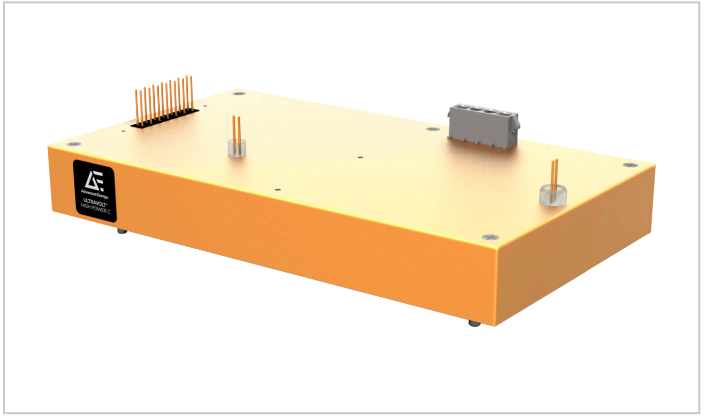

Fig. 2 UltraVolt High Power C series 1/2C24-P250

SOLUTION

Advanced Energy's recommended rapid modifications of SL NGB800 to provide a custom CF rated AC-DC power supply and rapid modifications of UltraVolt High Power C series of high voltage regulated DC-to-DC converters.

To certify a CF rated power supply it must fulfill the following requirements:

- Patient Leakage current <10 uA
- Isolation between its secondary output and protective earth (>1500 Vac).
- 2 MOPP Isolation input to output

The SL Power NGB800 provides 800W w/air (550 W convection) of power in a compact size with enhanced EMI and EMC performance ensuring easy integration into end equipment. Advanced Energy's engineers were able to make rapid modifications to the NGB880 to provide a CF rated product to meet the technical specifications of the customer.

UltraVolt High Power C 1/2C24-P250 (providing up to +500 vV/250 vW) was provided as a sample. The High-Power C Series is a compact, reliable high voltage power supply that features fast rise-times ideal for pulsing applications. The customer needed modifications to adjust output voltage and output current to specified proprietary values, delivering full-scale output current over the full range of output voltage specified. By making rapid modifications to our standard product, the customer was able to meet demanding development milestones.

AE provides the following advantages:

- World-class service and consulting from technical experts
- Fast time

RESULT

By choosing Advanced Energy's SL Power NGB Family and UltraVolt High Power C Series, the customer satisfied their requirements for highly reliable AC-DC and DC-DC power supplies, with high power density and best in class quality. As a result of the exceptional technical support and fast turnaround of modifications, the customer was able to accelerate their development cycle.

CONCLUSION

Advanced Energy's SL Power NGB Family and Ultravolt High Power C Series are designed to meet the demanding specifications of novel pulsed field ablation applications utilizing state-of-the-art power conversion topology. With Advanced Energy's broad portfolio of highly reliable medical solutions, we are well equipped to meet all your high and low voltage application requirements for novel Pulsed Electric Field medical devices.

Advanced Energy

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