VICOR

Case study: Radio frequency countermeasures

Eliminating the detectable heat signature from a SOSA supply when it's not in use

Customer's challenge

Migrating to open architecture standards (CMOSS/SOSA) power systems allows for rapid, field-upgradeable countermeasures against evolving threats. A unique challenge is to power the software defined radio card, memory card, and processor card when necessary, yet not draw power when not in use to hide from radar-guided surface-to-air missiles and electronic surveillance. The key goals were:

- Draw minimum current when disabled
- 3U standard form factor
- Quick prototyping and implementation

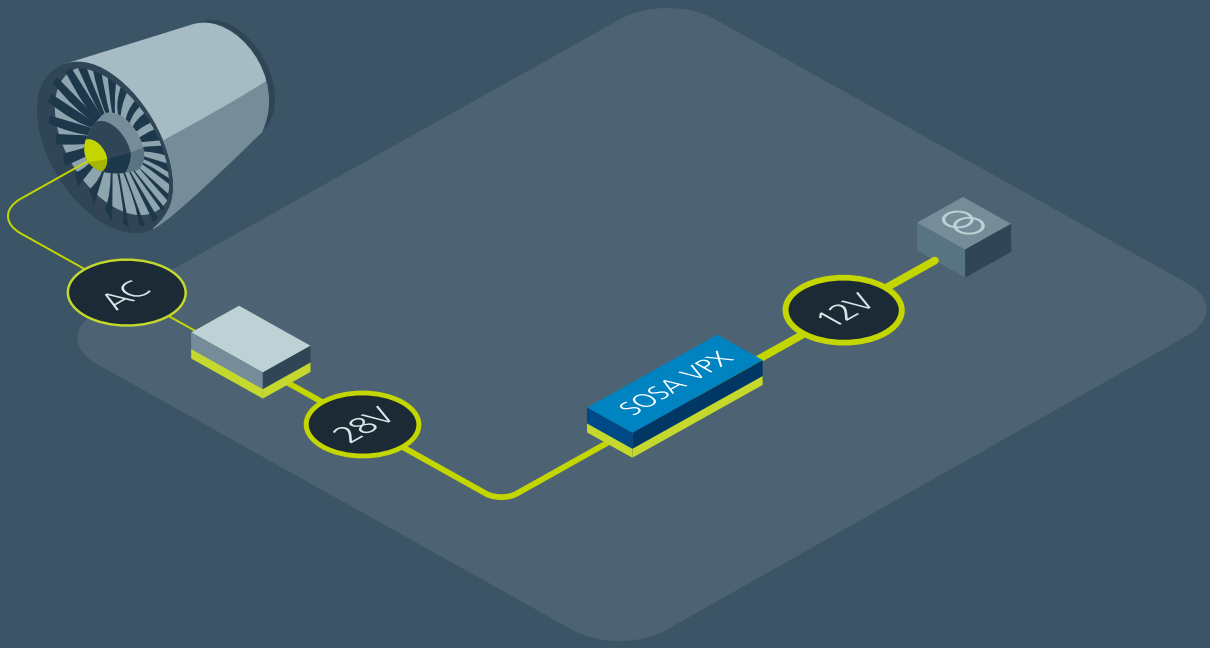
The Vicor solution

Vicor VPX solutions are time- and cost-efficient but also eliminate the need for re-engineering and trouble-shooting complex discrete component designs. The system delivers superior performance in the demanding environment of modern armored vehicles. Not only can it be easily modified to meet new requirements, it is also easily modified to avoid detection when the systems it powers are not in use. Key benefits were:

- Modified SOSA compliant 3U power supply
- Eliminated the heat signature that would endanger the vehicle
- Modular approach enabled quick design modifications prototypes

The power delivery network

Vicor rugged, VITA62 SOSA compliant OpenVPX power supplies, based on Vicor DCM™ DC-DC converters, provide not only unrivaled power density and reliability but are also easily configurable. The system was customized to include a quick disconnect circuit to eliminate the heat signature detectable by other forces when not in use.



SOSA™ aligned power supply

VPX systems

Input: 10 – 45V, 18 – 45V

Output: 12V main, 3.3V auxillary

Power: Up to 800W

As small as
3.9 x 6.6 x 0.95in

vicorpower.com/sosa

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