VICOR

Case study: Electronic warfare suite for aircraft

A single 6U multiple power, high efficiency qualified to meet MIL-STD operational requirements

Customer's challenge

Ensuring an aircraft's survivability by integrating a wide-spectrum radar warning receiver and advanced self-protection jammers requires high power availability. The digital radio frequency, data acquisition and processing, and radar electronics are noise sensitive loads that require a solution with low EMI. The key goals were:

- Meet power needs of up to 1000W
- Fast time to market
- Meet MIL COTS standards and operational requirements for airborne platforms

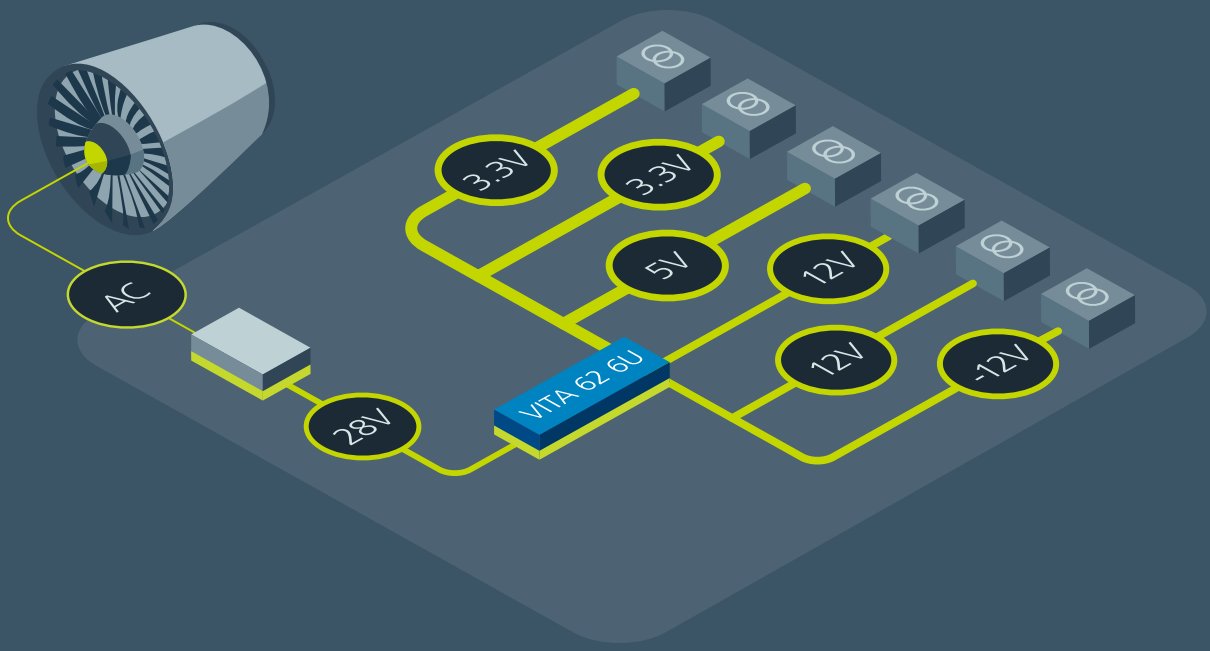
The Vicor solution

The Vicor VITA 62 power supply provides superior density – 1000W in 6U form factor – and meets line and load regulation, output ripple and noise, and power sequencing to cater to the noise sensitive loads. Thermal seating planes are suitable for the advanced liquid cooling the customer required, and a VPX power supply would make it easier to replace or repair units. Key benefits were:

- 1000W power system with low noise
- Support a lower mean time to replace/repair
- Optimal thermal management

The power delivery network

The 1,000W Vicor VITA 62-compliant 6U power supply is based on low-noise Vicor DCM™ DC-DC converter technology, which provides superior density in a low-profile package. Employing high efficiency, two-sided conduction-cooled modules, the Vicor VITA 62 power supply considerably improves the overall thermal management while powering the downstream loads.



VITA 62 power supply

VPX systems

Input: 18 – 42V, 18 – 45V, 220 – 320V

Output: 28, 12, 5, 3.3, –12V

Power: 3U 750W, 6U 1000W

Full power to 85°C (at card edge)

As small as 3.9 x 6.6 x 0.95in

vicorpower.com/vita-62

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