



AEROSPACE™

## POWER SUPPLIES

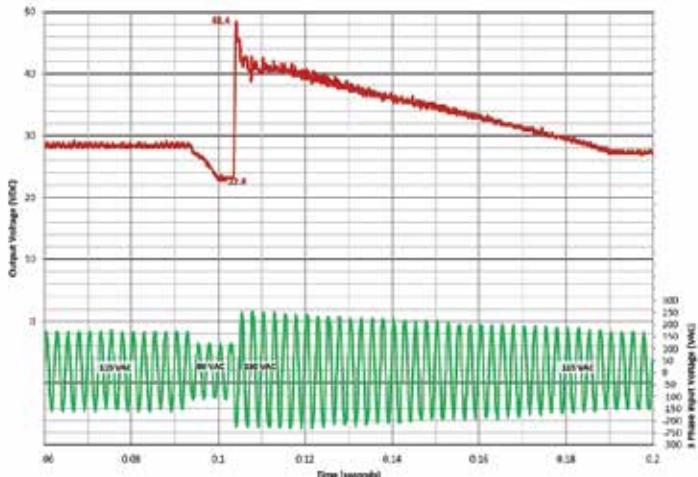
Since the 1950s, Champion brand power supply (TRU) products have been trusted for commercial and military airborne use. Champion Aerospace has pioneered a power supply system described as a Passively Controlled Transformer Rectifier Unit (PCTRU). Champion's PCTRU provides higher power quality than a regulated TRU by delivering low ripple voltage, transient voltage surge suppression, high efficiency and the highest reliability without the added failures modes inherent to regulated TRUs. This higher quality power eliminates faults, increases operational time and performance, reduces operational cost, and increases safety. Champion's PCTRU exceeds power quality requirements of industry standards.

### High Voltage Transients

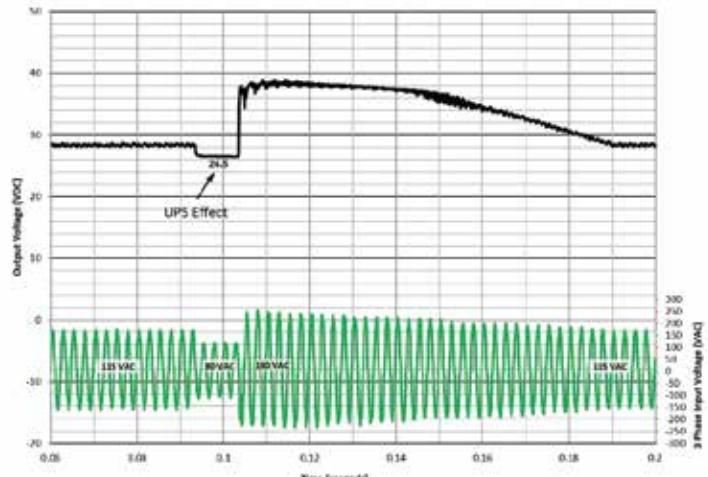
High voltage transients are generally understood as "life altering events" for utilization equipment containing semiconductor devices. Nearly all advanced electronic utilization equipment contains semiconductors that are susceptible to these high voltage transients. High voltage transients greater than 40 Volts are known to cause equipment to fail catastrophically, and/or prematurely, resulting in the loss of avionics and increasing maintenance costs.

Champion's PCTRU incorporates transient voltage surge suppression to keep high voltage transients under 40 volts. Champion's PCTRU suppresses high voltage transients without using active feedback inherent to Regulated TRUs. This transient voltage surge suppression method protects utilization equipment without adding a high steady state failure mode associated with Regulated TRUs.

**Competitor's Regulated TRU**



**Champion PCTRU**

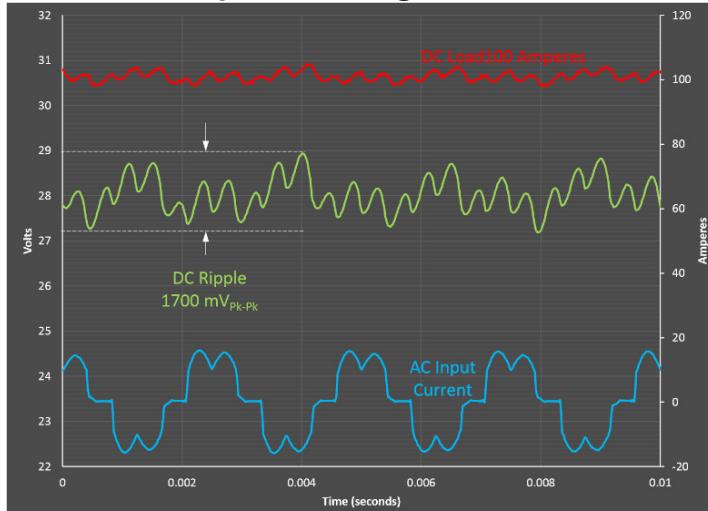


## Ripple Voltage

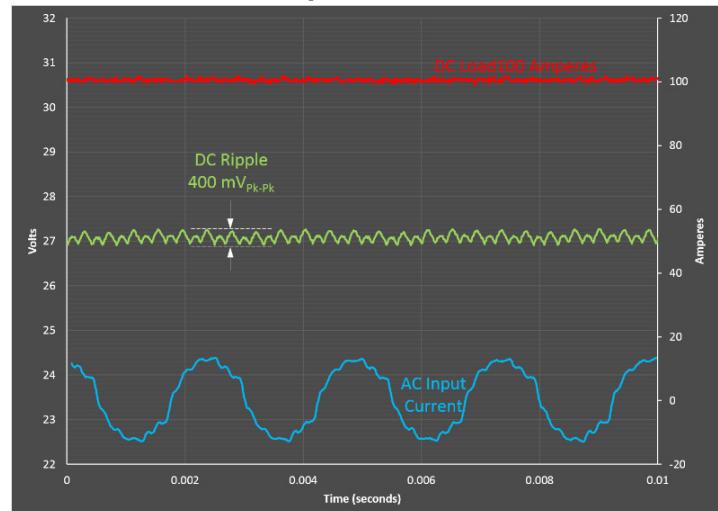
Ripple voltage is defined as the variation of voltage about the steady state DC voltage during steady state electric system operation. Many TRUs being installed on aircraft today produce ripple voltage greater than 1.5Vpk-pk. This generates significant concerns with the overall system integration with regards to electronic system faults, compatibility, and performance degradations in advanced electronic systems. High ripple voltage (greater than 1.5Vpk-pk) can have a “poisoning” effect on equipment causing it to degrade over time.

Champion Aerospace's simple passive techniques in the PCTRU provide a typical ripple voltage of 0.20 Vpk-pk (shown below) which is a 90-95 percent improvement beyond competitive aircraft power supplies.

Competitor's Regulated TRU



Champion PC TRU



## Products Available

28 Volts DC Ampere Rating	Part Number	Topology
50	28VS50Y-12	TRU
50	28VS50Y-30	PCTRU
100	28VS100Y-10C	TRU
120	28VS120Y-1, -2, -3, -5	TRU
120	28VS120Y-7	PCTRU
200	28VS200Y-4D	TRU
200	28VS200Y-32	TRU
240	28VS240Y-31	TRU
240	28VS240Y-33	PCTRU
240	28VS240Y-34	PCTRU
240	28VS240Y-36	PCTRU
300	28VS300Y-35	PCTRU

Champion Power Supplies can be designed to your application requirements.

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