

Where Capacitors Impact

Naval Systems

Evans GROUP
Power Reliability.
Harsh Environments.
Mission Ready.

Technology Key

Evans: Hybrid Wet Tantalum

Paktron: Multilayer Polymer Film (stacked)

UTC: High-reliability Ceramic

Eulex: RF & High-frequency Ceramic

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For illustrative purposes only. System configurations and applications vary. Subsystem locations shown are representative and may vary by platform configuration. Product placement identifies potential areas of applicability and does not imply that Evans Group supplies, is qualified on, or is installed on every platform or subsystem shown.

1. Sensor & Radar Systems



CAPACITOR FUNCTIONS

- RF bypass and coupling
- Impedance matching
- Wideband filtering
- Power conditioning
- ADC and receiver decoupling
- DC blocking

BEST FIT TECHNOLOGIES

Evans: Bulk energy storage, pulse support, and power-supply stabilization

Paktron: Low-ESR for power-supply filtering and ripple suppression

UTC: Decoupling, bypass, and filtering

Eulex: High-Q RF capacitors for matching, coupling, DC blocking, and filtering



2. Weapons Systems



CAPACITOR FUNCTIONS

- Pulse energy storage
- Pulse ignition power
- In-caps for pulse power and launch
- Timing and sequencing
- Fire control power conditioning
- High pulse current

BEST FIT TECHNOLOGIES

Evans: Power-dense bulk energy storage, pulse delivery, and power hold-up

Paktron: High-dv/dt for pulse support, snubbing, and filtering

UTC: Pulse energy capacitors for ignition and detonation



3. Communications & Electronic Warfare



CAPACITOR FUNCTIONS

- RF components for high performance
- T/R module decoupling
- High-Q bypass
- RF filtering
- DC blocking
- Secure comms power integrity

BEST FIT TECHNOLOGIES

Evans: Bulk energy storage and power hold-up

Paktron: Low-ESR for power-supply filtering and ripple suppression

UTC: RF-module decoupling, bypass, and equipment-level filtering

Eulex: High-Q RF capacitors for matching, coupling, DC blocking, and filtering



4. Propulsion & Power Systems



CAPACITOR FUNCTIONS

- DC link and bus capacitance
- Drive and motor control filtering
- Inrush current handling
- Power factor correction
- Harmonic filtering

BEST FIT TECHNOLOGIES

Evans: Bulk energy storage and minimize voltage droop

Paktron: High-ripple for DC-link filtering, bus stabilization, and motor-drive power conversion

UTC: Motor-drive decoupling, control-loop filtering, and switching-noise reduction and control



5. Auxiliary Power & Ship Service



CAPACITOR FUNCTIONS

- DC-DC and AC-DC conversion filtering
- UPS & critical load backup
- Power factor correction
- Motor start support
- Ripple suppression

BEST FIT TECHNOLOGIES

Evans: Energy storage for DC-DC/AC conversion

Paktron: High-ripple for AC/DC converter filtering

UTC: Converter input/output filtering and decoupling



6. Energy Storage & Hold-Up



CAPACITOR FUNCTIONS

- Bulk energy storage
- Hold-up for ride-through
- Mission-critical backup power
- High ripple handling
- Power rail stability

BEST FIT TECHNOLOGIES

Evans: High capacitance density for power hold-up

Paktron: Low-ESR for localized filtering, ripple suppression, and power conditioning

UTC: High voltage up to 20kV rating



7. Protection & Reliability



CAPACITOR FUNCTIONS

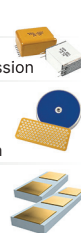
- Snubber and pulse protection
- Transient suppression
- EMI filters and feedthroughs
- Clamp circuit capacitors
- Harsh environment protection

BEST FIT TECHNOLOGIES

Paktron: Snubbing and switching-transient suppression

UTC: Discoidal and planar arrays for EMI suppression, MLCCs for snubbing and pulse-transient suppression

Eulex: Low-ESL bypass and high-frequency noise filtering for sensitive electronic circuits



8. Command, Control & Mission Systems



CAPACITOR FUNCTIONS

- FPGA/CPU power rails
- Data bus decoupling
- Clock and reference circuit stability
- Low-noise filtering
- I/O interface filtering and protection
- Redundant system power integrity

BEST FIT TECHNOLOGIES

Evans: Power hold-up and power-supply stabilization

Paktron: Low-ESR for power-supply filtering, ripple suppression, and noise reduction

UTC: High-reliability decoupling, clock stability and filtering



THE EVANS GROUP ADVANTAGE



Mission Reliability
Built for harsh maritime environments



High Performance
Maximum reliability and readiness



Power Integrity
Stable power across every system



Extreme Conditions
Salt fog, shock, vibration, EMI