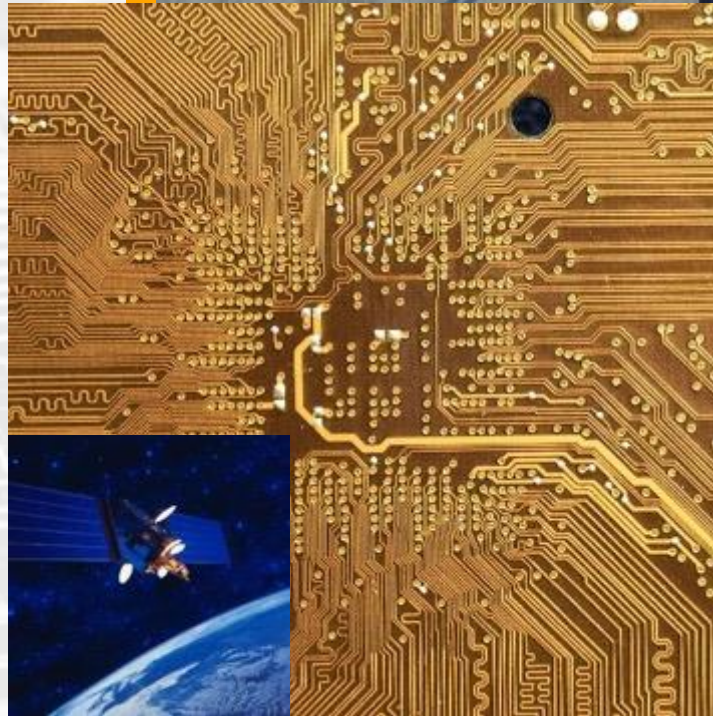


Capacitors

July 2023



Corporate Overview

Defining & Delivering the Future of Mission-Critical Electronics

- > Global leader within military, space and commercial markets
- > 15,000+ products across 14 Business Units
- > 1,500+ customers worldwide
- > ~800 employees in 20 offices
- > 60+ years of history serving mission-critical electronics
- > ~\$800K 2022 Revenue with Honeywell

Three Verticals of Quantic Electronics Mission-Critical Electronics

RF/MW Products

(Components to Integrated Assemblies)



Quantic™ Corry

Quantic™ MWD
MICROWAVE DYNAMICS

Quantic™ TRM

Quantic™ PMI
PLANAR MONOLITHICS

Quantic™ Wenzel

Quantic™ X-Microwave

Quantic™ Croven

Sensing Products

(Encoders, Scanners & Accelerometers)



Quantic™ BEI

Quantic™ Thistle

Power Products

(Capacitors, Resistors & Magnetics)



Quantic™ Evans

Quantic™ ECI

Quantic™ Eulex

Quantic™ Ohmega

Quantic™ Paktron

Quantic™ Ticer

Quantic™ UTC

Why Quantic?

A Broad Portfolio of RF, Sensing, and Power Products

Portfolio of 15,000+ Catalog Products and Fully Custom Offerings

- > Crystal Oscillators
- > Encoders & Accelerometers
- > High-Power Capacitors
- > Resistive Foils
- > Magnetics
- > Power Dividers
- > Filters
- > Converters
- > Amplifiers
- > Phase Shifters

Decades of Experience Serving Mission-Critical Programs

COTS to Mil-Spec Capabilities / US and International EAR-99 Compliance

- > Joint Strike Fighter
- > Air & Missile Defense Radar
- > Apple iPhone
- > Key components on medical equipment for Abbott, GE Healthcare & Karl Storz
- > Over 60 years of space pedigree—NASA Orion, Mars Perseverance Rover, SBIRS, and ISS

Serving a Diverse Set of Applications and Customers

Serving Industry Leaders Across All End Markets

- > Aerospace & Defense
- > Commercial
- > Industrial
- > Magnetics
- > Test & Measurement



Small Company Flexibility with Large Company Stability

Engineer-to-engineer “hands on” approach

- > Ability to rapidly prototype w/attractive lead times
- > RF/MW systems optimization capabilities with modular, scalable building blocks
- > Multiple locations for complex problem solving
- > Ability to invest where customers have critical needs

Focused on Components & Modules in the Value Chain

Primes/Tier 1
Mission Integrated Systems

Tier 2
Integrated Subsystems

Tier 3
Modules

Tier 4
Components



Our Focus

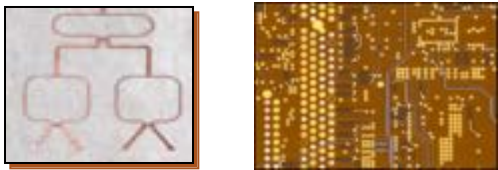
Capacitors



Quantic portfolio spans from **multilayer polymer film capacitors, to multilayer ceramic capacitors and assemblies**, to the industry's most power dense capacitor technology

Quantic™ Evans Quantic™ Paktron
Quantic™ Eulex Quantic™ UTC

Resistors



Quantic provides **thin-film resistive copper foil resistors** that are designed into the most demanding Printed Circuit Boards

Quantic™ Ohmega
Quantic™ Ticer

Magnetics



Quantic designs and manufactures custom & standard **leading-edge passive magnetic components**

Quantic™ ECI

Capacitors



Capacitors Overview

Quantic[®] Electronics capacitor product lines are routinely specified for defense, aerospace, and energy exploration applications where high reliability and SWaP (space, weight, and power) savings are critical design considerations.

Quantic[™] UTC



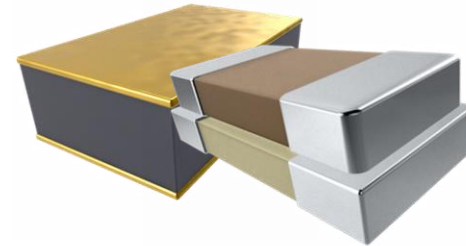
Quantic[™] UTC specializes in **multilayer ceramic capacitors** and assemblies, both standard and custom

Quantic[™] Evans



Quantic[™] Evans designs and manufactures the industry's most power dense **hybrid wet tantalum capacitors**

Quantic[™] Eulex



Quantic[™] Eulex designs and manufactures **high frequency ceramic capacitors** featuring higher capacitance and fewer dielectrics

Quantic[™] Paktron



Quantic[™] Paktron supplies the industry's leading **multilayer polymer film capacitors**

Capacitor Products Overview

	Capacitor Type	Frequency Range	Voltage Range	Capacitance Range	Core Market Segment	Core Products
Quantic Evans	Hybrid Wet Tantalum	DC-10Khz	10VDC-125VDC Up to 700V Banks	22 μ F - 300 mF	• Mil-Aero • Oil & Gas • Space • Power Holdup	• COTS Hybrid Capacitors • COTS Capacitor Banks • Custom Connectorized Banks
Quantic Eulex	High-Frequency (RF) Ceramic	9Khz to >100GHz	4V - 1500V	1 pF - 220 nF	• High-Frequency • Microwave • Millimeter-Wave • 5G Applications	• Broadband • Gap Capacitor • Vertical Layer • Ultra-High-Q
Quantic Paktron	Multi-layer Polymer (MLP)	1KHz - 1MHz	50V - 500V	.1 μ F - 20 μ F	• Switch-Mode Power Supplies • Mil-Aero • Power Conversion • Automotive • Industrial • DC-LINK	• Multilayer Polymer (MLP) • Advanced Polymer • Thru-Hole/SMD • RC snubber Network
Quantic UTC	Multi-layer Ceramic (MLCC)	1kHz - 1MHz	6.3V - 10KV	1.2 pF – 22 μ F	• MIL-PRF-49470 "T" And "B" level • Military and Space • MIL-PRF-15733 and MIL-PRF-28861 • Industrial	• SMPS • MLCC • Safety Cap • Planar Arrays • Discoidal • Radial Leaded

Quantic™ Evans



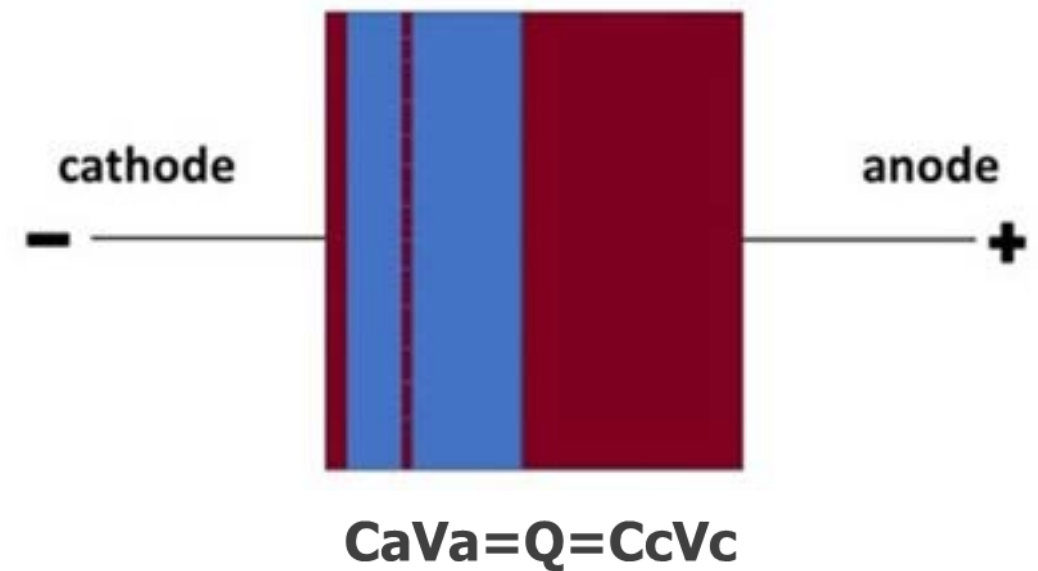
**Quantic™ Evans designs and manufactures
the industry's most power dense hybrid wet tantalum
capacitors**



The operating principle of our Hybrid wet tantalum capacitors lies within the combination of a Tantalum anode (Ta2O5) and a Ruthenium Dioxide (RuO2) cathode.

Important Characteristics

- > Two electrodes are connected in series by an electrolyte ($1/C_t = 1/C_a + 1/C_c$)
- > The TaO5 dielectric anode allows the capacitor to withstand high voltages
- > The high capacitance RuO2 cathode increases volumetric efficiency
- > These series cells can be stacked in parallel inside each package offering all the benefits of parallel capacitor connection



SWaP Optimized Capacitors for Mission-Critical Applications

Advantages

- SWaP optimized; the most power dense capacitors in the industry
- Rugged hermetically sealed design withstands harsh environments
- Ultra-low ESR “enables” high-current applications
- Unlimited cycle life and shelf life
- Space grade - qualified to NASA-INST-002; ESA Approved

Product Applications

- Power hold-up (MIL-STD-704 / DO 160)
- Transmit pulse (T/R modules)
- Electric Propulsion for Space
- Directed Energy
 - Petawatt Lasers for Fusion Energy
 - High Power Pulse Microwave (HPM)
 - Electromagnetic Pulse (EMP)
 - Laser Targeting, Range-finding & Weapons Systems
 - LIDAR
- Oil & Gas
 - 200°C and Ultra High Shock & Vibration

TDB Series



- 1.0" x 1.0" square base (5 heights)
- Voltage Range: 10V-125V
- Cap Range: 750uF – 150,000uF

TDD Series



- 1.4" x 1.4" square base (5 heights)
- Voltage Range: 10V-125V
- Cap Range: 1.5mF - 300mF
- DLA 15010

TDE Series



- 1.4" x 1.4" square base (4 heights)
- Voltage Range: 60V-110V
- Cap Range: 2.2mF - 25mF

THQ Series



- 1.4" round base (5 heights)
- Voltage Range: 10V-125V
- Cap Range: 1.1mF - 200mF
- DLA 04001, DLA 04003, DLA 04004, DLA 09022

THQA2/M2/S2 Series



- 0.6" round base
- M2 - mounting case option
- S2 – High Shock Option
- Voltage Range: 10V-125V
- Cap Range: 215uF – 10,00uF
- DLA 04005

Hycap Series



- Axial Form Factor
- 3 case sizes – T1, T2, T4
- Voltage Range: 10V-150V
- Cap Range: 2uF – 2700uF
- High temp 200°C options available
- DLA 10004, DLA 93026

Modules



- Configurable with any Quantic Evans capacitor
- Available in 2 – 8 capacitor assemblies
- Can choose connector, wiring, orientation, and more

Capattery



- Double layer carbon capacitor technology
- Voltage range: 5.5V – 11V
- Capacitance range: 0.47F – 1F
- High shock options available

Key Pulsing Applications: Radar, Laser, Lidar, EMP

Quantic™ Evans

Quantic™ Evans capacitors are perfectly suited for pulsing applications where minimizing space, weight and power is critical. Mobile Radar, Lidar, Electromagnetic Pulse, and High-Power Microwave are some key examples.

We also have advantages in “non mobile” applications. Quantic™ Evans capacitors are very low in ESR [resistance] therefore generate less loss [heat]. Their compact design allows for closer placement to the emitter, further aiding in minimizing loss.



Boeing Wedgetail/Northrup
Grumman MESA



Northrup Grumman E2D
Hawkeye



L3 Harris MX Imaging
System



HAPLS Laser



LIDAR



Leonidas Epirus Drone
Defense

Applications – Space

Quantic™ Evans is an elite designer and manufacturer of space-grade capacitors, currently qualified and in service with all tier-1 aerospace and defense contractors.

Quantic™ Evans Capacitors perfectly suited to handle the unique requirements demanded in space applications. They are routinely screened and qualified to NASA EEEINST-002 in addition to individual mission requirements.

Their rugged design withstands shock and vibration. RAD hard tantalum case allows the cap to seamlessly operate in high radiation environments.

Quantic™ Evans



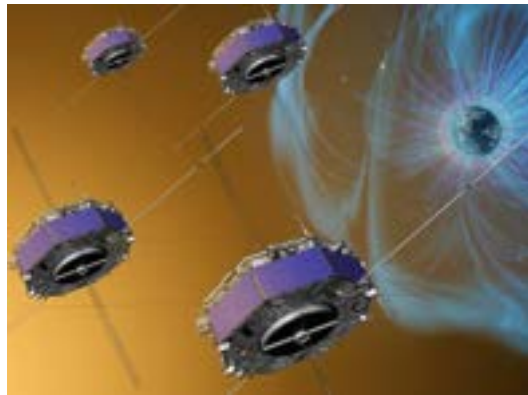
Thales/Airbus Rose-L (Space Radar)



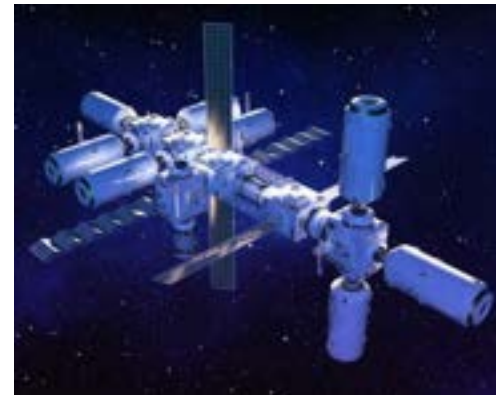
NASA International Space Station



Electric Propulsion (Ion Thruster)



NASA MMS



Axiom Commercial Space Station



Starliner

Mission Critical Applications

Quantic™ Evans



L3Harris Storm Laser
Rangefinder



LMCO MEADS



Raytheon Tomahawk



NGC Cobra Judy
Replacement



LMCO Laser
Targeting Pod



Downhole Drilling



GEM-T



EUROFIGHTER
CAPTOR-E

Applications – Power Hold-Up (MIL-STD-704/DO-160)

Quantic™ Evans

Overview

Avionics systems rely on a steady power supply to ensure proper operation. However, power interruptions can occur due to a variety of reasons, such as electrical disturbances or failure of the main power source. To ensure that the avionics systems continue to function properly during these interruptions, capacitors are used to provide a temporary reserve power supply. These capacitors, also known as "hold-up capacitors" charge up when power is present and discharge their stored energy during a power interruption, keeping the avionics systems running until the main power source can be restored. During these power interruption events, capacitors provide power to critical electronics systems for 20ms to 1 second or longer.

Capacitors used in avionics and other military applications must meet the requirements set forth in MIL-STD-704 and DO-160. These standards outline the electrical, environmental, and mechanical requirements that capacitors must meet in order to be considered suitable for use in military systems. To meet MIL-STD-704, capacitors must be able to withstand the wide range of voltage and current levels specified in the standard, as well as the various environmental conditions, such as temperature, humidity, and altitude. Additionally, capacitors must be able to withstand mechanical shocks and vibrations and must be resistant to corrosion and other forms of damage. To meet DO-160, capacitors must be able to withstand the various environmental conditions outlined in the standard, such as temperature, humidity, and altitude, and must be resistant to damage from lightning and other electrical disturbances.



HARRIS - Falcon III



F35, F15, F18



Boeing – 787 Civil Avionics



LMCO – M-TADS "Arrowhead"

Quantic™ Evans capacitors' compact size and high-power density make them ideally suited for power hold-up applications in avionics.

Case Study - DC Storage For Transmit Pulse

Aluminum Flatpack Stainless



MLP272M100EB0A
100V and 2,700 μ F per unit
3 required
1.75" x 0.5" x 3.0"
Volume $\approx$ 7.875 in³
Footprint = 15.75 in²
Weight = 198g

Traditional Wet Tantalum



DLA-10004-13
100V and 400 μ F per unit
21 required
0.375" D x 1.062" L
Volume $\approx$ 4.5 in³
Footprint = 11.9 in²
Weight = 450g

Aluminum Flatpack Stainless Steel Cased



MLSG132M100EB0D
100V and 1,300 μ F per unit
8 required
1.75" x 0.5" x 3.0"
Volume $\approx$ 21. in³
Footprint = 42 in²
Weight = 744g

Extended Range Wet Tantalum



HC4D100881
100V and 880 μ F per unit
9 required
0.375" D x 1.062" L
Volume $\approx$ 1.34 in³
Footprint = 3.6 in²
Weight = 135g

Aluminum Flatpack Stainless Steel + Hermetic



MLSH401M100JK0C
100V and 400 μ F per unit
37 required
1.0" x 0.5" x 1.5" Volume $\approx$ 27.8 in³
Footprint = 55.5 in²
Weight = 1184g

Hybrid Wet Tantalum



EVANS TDD4100882
100V and 8,800 μ F per unit
1 required
1.4" x 1.4" X 0.755"
Volume $\approx$ 1.5 in³
Footprint = 2.0 in²
Weight = 145g

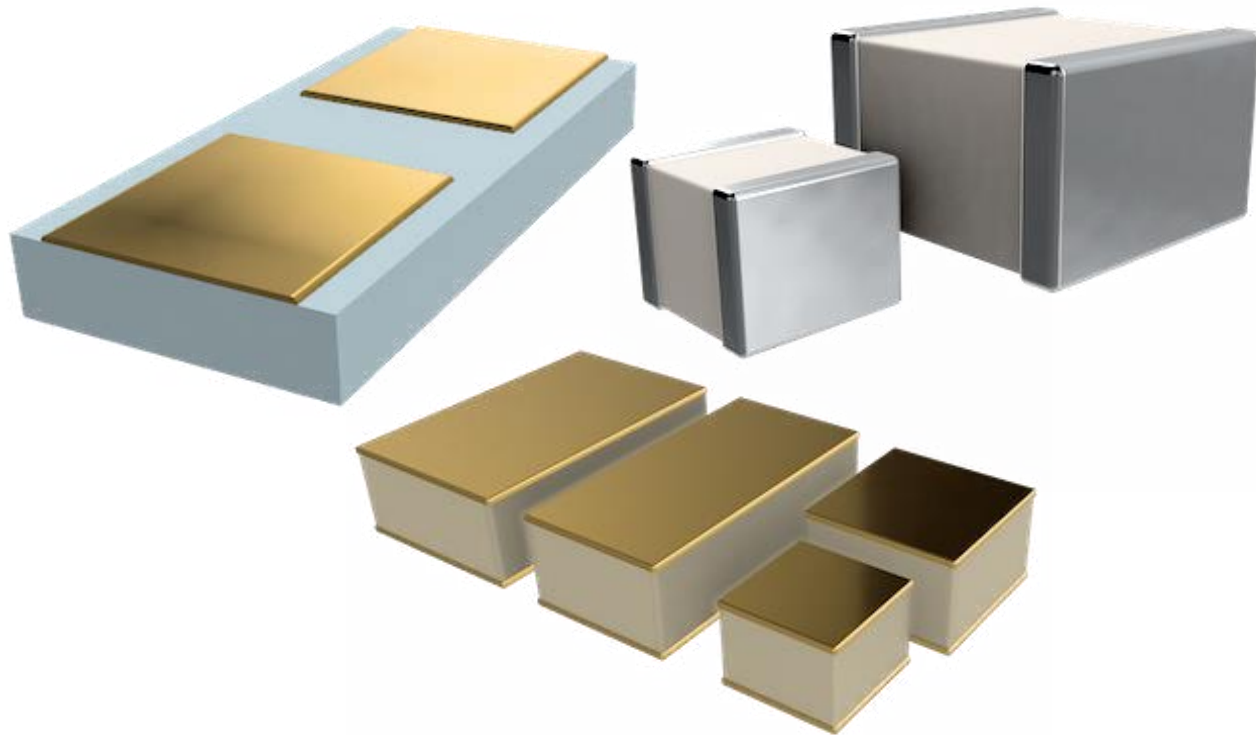
100V and 8,000 μ F Capacitor Solutions

Hybrid Wet Tantalum Capacitor Overview



Capacitor Type	Quantity Required	Volume (in^3)	Weight (g)	Hermetic
Flatpack	3	7.875	198	
Traditional Wet Tantalum	21	4.5	450	√
Stainless Steel "Flatpack"	8	21	744	
Extended – Wet Tantalum	9	1.34	135	√
Stainless Steel + Hermetic "Flatpack"	37	27.8	1184	√
Quantic Evans "Hybrid"	1	1.5	145	√

Quantic™ Eulex



Quantic™ Eulex designs and manufactures high frequency ceramic capacitors featuring higher capacitance and fewer dielectrics.

Ceramic Capacitors for the Most Demanding High Frequency, Microwave & Millimeter-wave Applications

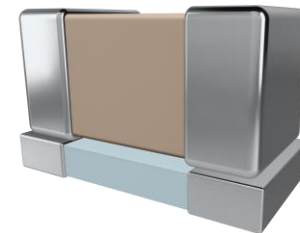
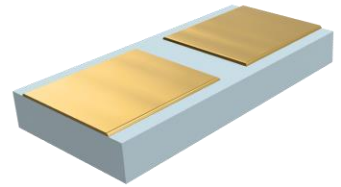
Key Applications

- 5G and next generation telecoms
- Test and measurement
- AI & machine learning, new high-speed architecture
- Automotive, mm-wave / vision sensing / C-V2X
- Military & aerospace radar / sat-coms



Company & Product Highlights

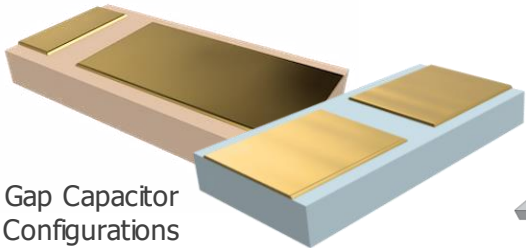
- Co-Founders 30+ Years in MLCC & SLC
- Focus on Innovation
- Full Suite of High Frequency Ceramic Products
- Patented Technology – Unmatched Performance
- High Reliability
- Domestic Manufacturing Capability



Patented technology allows our Gap Capacitors to be manufactured with up to 20x capacitance

Advantages

- Up to 20x capacitance
- Fewer Dielectrics
- True Single Layer (no vias)
- High Reliability
- No Wire-Bond
- Simpler Part Selection
- Ultra-High Q Dielectrics
- Range of Voltages



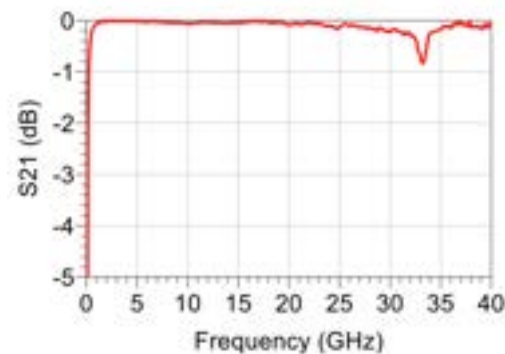
	Maximum Capacitance / pF															
	100 Volt				50 Volt				16 Volt				6.3 Volt			
	P	NP0	X7R	Max	P	NP0	X7R	Max	P	NP0	X7R	Max	P	NP0	X7R	Max
ATC	X	1.0	82	120	X	X	X	X	X	X	X	X	X	X	X	X
AVX	X	X	X	X	X	X	X	*1400	X	X	X	X	X	X	X	X
Knowles	X	X	X	X	0.2	1.5	68	*250	X	X	X	X	X	X	X	X
Passive Plus	0.2	2	68	*820	0.3	2.7	68	*1200	X	X	X	X	X	X	X	X
Eulex	3.3	47	1400	5800	3.9	56	1700	6800	5.6	80	2400	10000	8.7	120	3600	15000

Competitor Comparison (Based on 0804 size device)

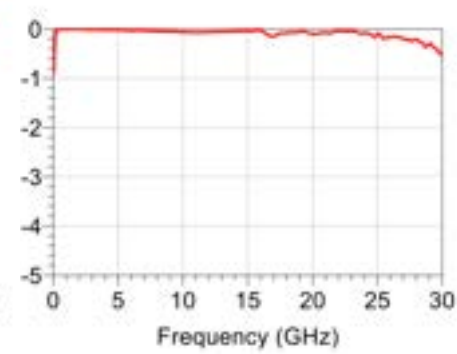
* Uses GBBL dielectric

Gap Capacitor – Performance Data

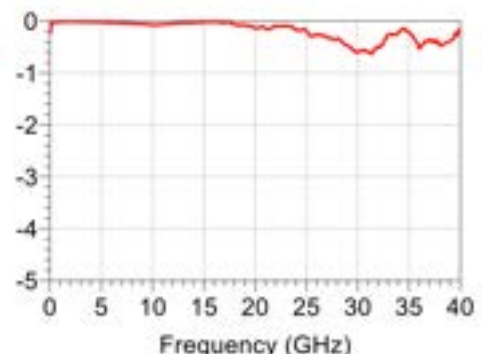
XGE40Q130K



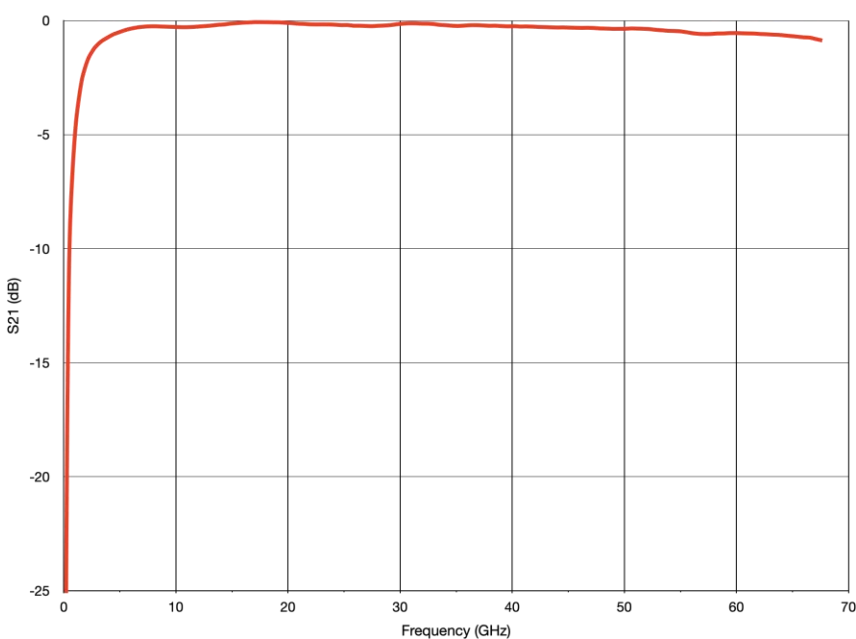
XGE40N750K



XGE40C271K



XGE15P1R3B



Data Courtesy of



Data Courtesy of

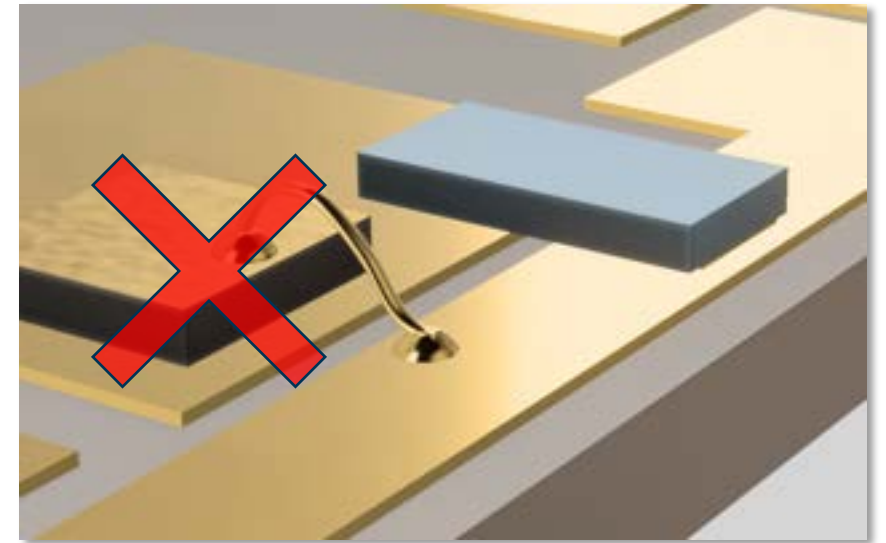


Applications

- Photonics,
- Synchronous Optical Networking (SONET),
- Receive and Transmit Optical Sub-Assemblies (ROSA/TOSA),
- Transimpedance amplifiers (TIA)
- High-Speed Data,
- Test equipment,
- Broadband Microwave / mm-wave,
- Excellent solution for strip-line or coplanar wave-guide applications

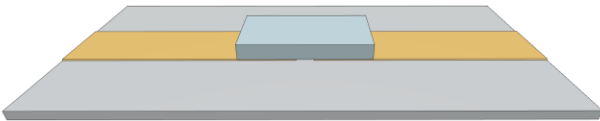
Functional Applications

- DC Blocking
- Coupling
- RF Bypassing
- Filtering
- Tuning



Gap Capacitor – Additional Configurations

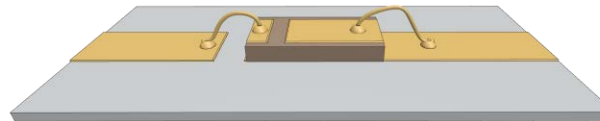
Gap Capacitors



Microwave / millimeter wave gap capacitor for DC blocking, RF bypass, impedance matching, filtering, tuning, coupling.

- 20X Capacitance Design
- Ultra-Stable High Q Dielectrics
- 6.3 Volt to 100 Volt
- Standard and Custom Sizes Available
- No Wire-bond

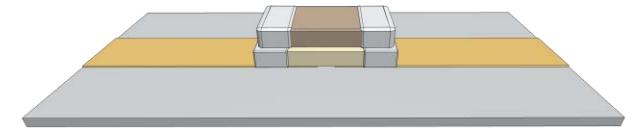
Binary Capacitors



Suitable for Ga-As, 5G, telecom, industrial, military and space applications requiring high self resonance frequencies to 100GHz

- 10X capacitance design
- Wire-bondable
- Additional Capacitor on Device
- Configurable Design

Broadband Blocks

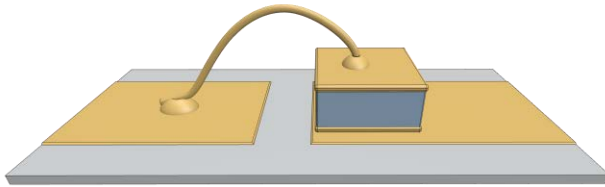


Broadband Block combines Eulex patented Gap Capacitor with high capacitance MLCC. For microwave/mm-wave, optical transceivers, broadband test equipment.

- Size 0201 thru 0805 / 10, 100, 220nF
- Low insertion Loss to 100GHz
- Lowest Profile

Complementary Product Line-Up and Future Products

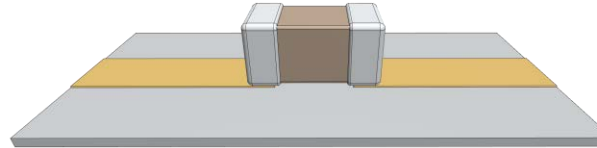
Vertical Layer Capacitors



High capacitance, wire-bondable MLCC. Class II dielectric for RF Bypass and DC Blocking for wide frequency range.

- Miniature Form Factor (1515-5080)
- Wire-bondable, Au Terminations
- Class II (-55°C to 125°C)
- High Frequency Response

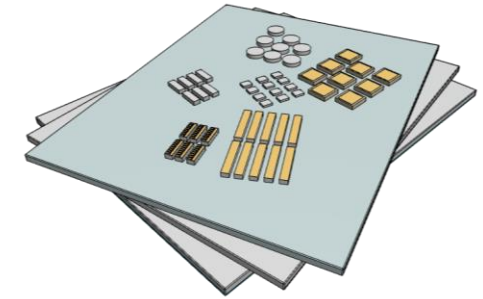
Ultra-High Q MLCC



High frequency performance MLCC (high Q / low ESR design). Economical solution for demanding RF applications.

- Size 01005 thru 1111
- 0.1pF to 1000pF
- 6.3 volt to 1500 volt
- NPO dielectric (± 30 ppm / °C)

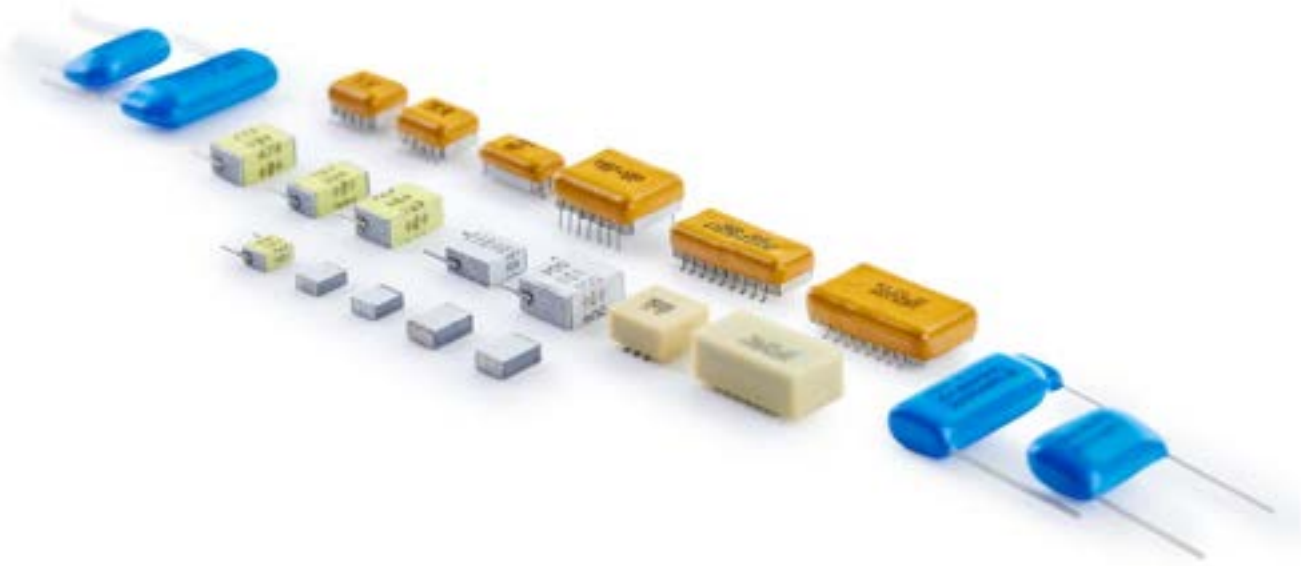
Substrates & Stand-Offs



Eulex has the capability to manufacture custom substrates from a range of ceramic materials with thin or thick film metallization and inclusion of thick film resistors.

- High Purity AlO
- High Q dielectrics >100GHz
- AlN with Exceptional Thermal Conductivity
- Custom Size & Shape
- Metallization Options

Quantic™ Paktron



Quantic™ Paktron is a technological leader in multilayer polymer film [MLP] capacitors with its innovative and patented technologies.

Multilayer Polymer Film Capacitors for Mission-Critical Applications

Advantages

- MLP capacitors offer an alternative to ceramic capacitors in “cannot fail” applications that demand robust mechanical & electrical solutions
- Wide product offering includes voltage range of 50V – 500V and capacitance range of 0.1uF to 20uF
- Weight Savings – polymer capacitors weigh about 20% of MLCCs
- End use applications include: aerospace & defense, hi-rel power conversion, commercial, automotive and telecommunications

Key Platforms

FADEC



Industrial SSD Modules



Automotive Ignitions



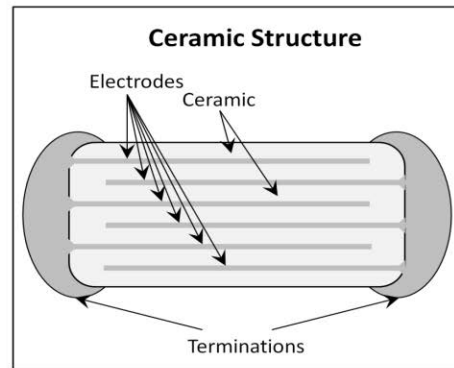
MLP Capacitor Characteristics

- Stable under bias voltage
- Stable under AC voltage
- Stable over temperature
- Mechanically flexible (doesn't crack)
- Little to no derating required
- Self-healing ~ does not fail short

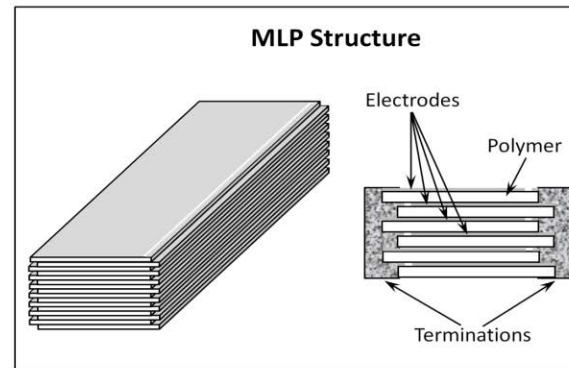


Design Advantages

Multilayer Polymer (MLP) Capacitors are structurally similar to MLCC



MLC – Multi-Layer Ceramic



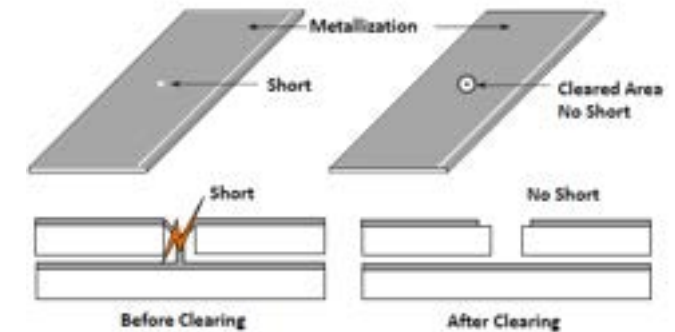
MLP – Multi-Layer Polymer



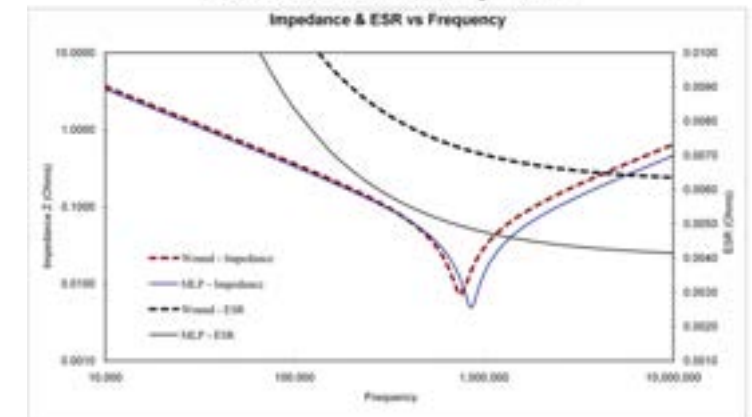
Advantages of MLP

- High frequency, lower ESL/ESR due to mechanical structure
- Self-healing, mechanically robust design due to polymer film construction
- Lightweight <25% of equivalent ceramic

Self-Healing



Wound vs. Stacked Comparison



Design Advantages

Advantage	Description
Ripple Current Handling	Highest in the industry
LOW ESL/ESR: High operating frequency range	frequency range 10+ times wound film MLCC-like electrical characteristics
Small Size/Lightweight	Highest capacitance density in the film capacitor industry (PET) 25% weight of MLCC
Stability	Stable parameters over a wide range of frequencies, temperatures, no DC-Bias derate, long life
Mission Critical	Polymer film capacitors are the go-to capacitors for “cannot fail” applications.



Other Hi-Rel

- Doble
- Econolite
- Johnson controls
- MKS Instruments
- Mobotrex
- Orange Traffic
- Seren IPS

Power Conversion

- ACT Power
- Alpha Tech
- Astrodyne/TDI
- Behlman
- Delta
- HDL Power
- Intellipower
- North Atlantic Industries
- Polarity
- Vicor
- Wall
- XP Power



Paktron's Target Market Applications



Series	Target Market Applications
- Angstor - Capstick - Surflim	AC/DC, DC/DC power supplies of all types, mainly high reliability custom or embedded designs
	Hi Rel power conversion, lightweight airborne, hi rel such as eV charging, commercial space
	Military embedded power conversion for air land and naval, military RF communications amplifiers and power supplies
	Semiconductor Fab: RF Plasma generators, matching networks
All	Specialty Test Equipment (ATE, military test etc)
All	Green Energy: solar and wind power management systems, Inverters etc.
Quencharc / All	Industrial Control equipment
Quencharc / All	Traffic Control Systems
All	Utility Metering Systems: Smart Meters, grid health testers
	High Reliability, Long Lifespan Equipment of all sorts



New Product! RC Series CC Series

Voltage Range

200 VDC / 140 VAC

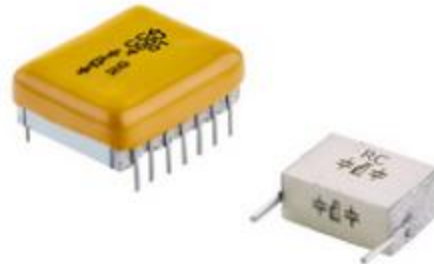
400 VDC / 280 VAC

500-630VDC (Pending)

Cap Range

.42 to 1.8uF

Angstor® Capacitor • Capstick® Capacitor



- **Highest ripple current x C*V ratings in the industry**
- **Ultra low ESR/ESL**
- **-55C to +150C operating temperature range**
- Novel Dielectric Material: Ultra low D.F, self-healing
- Lightweight <25% of equivalent MLCC
- Low losses at high frequency
- Excellent for resonant circuits
- High dv/dt
- Efficient size
- Rugged construction
- Automotive AEC-Q200 (Pending)
- Made in U.S.A.

Aero / Defense Examples



A/D Customers

- Anduril
- Astronics
- Aveox
- Avionic Instruments
- BAE Systems
- Comtech
- Crane
- GE Aviation
- General Atomics
- Harris
- Lockheed Martin
- Northrup Grumman
- Raytheon

Space Legacy

- Mars Reconnaissance Orbiter
- Shuttle Discovery
- Satellite Use



**Quantic™ UTC specializes
in multilayer ceramic capacitors and assemblies, both
standard and custom**

Quantic UTC is approved to produce MIL-PRF 49470 parts to standard (B) level and (T) space levels in addition to a wide variety of DLA drawings

Products

- Switch mode power supply (SMPS)
- Military – Qualified to MIL-PRF-49470 “B” standard and “T” Space application
- Discoidal - meet or exceed MIL-PRF-15733 and MIL-PRF-28861
- Planar arrays - meet or exceed MIL-PRF-15733 and MIL-PRF-28861
- MLCC (BME/PME)
- Radial leaded (up to 10kV) - Screening to MIL-PRF-49467 available

Distinguishing Advantages

- Equipped to perform a variety of MIL-PRF testing
- Low ESR & ESL – excellent for frequency decoupling
- Multiple dielectrics available including NP0, X7R, X5R, Y5V – PME and BME formulations
- Low-cost manufacturing options available
- Work engineer to engineer to meet unique customer requests



Product Families

SMPS



- Voltage Range: 50V-500V
- Cap Range: .01uF - 270uF
- Size: Case Code Size 1-6
- Dielectric: NPO, X7R
- Application: Military, high end protection

Discoidals



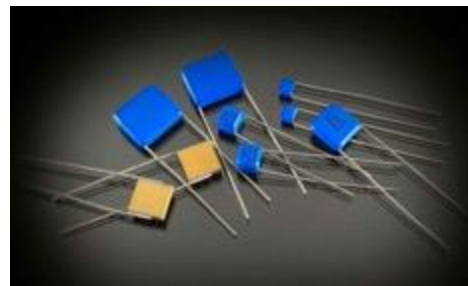
- Cap Range: .05pF – 7.2uF
- Voltage Range: 25V-2000V
- Size: 0502 - 6027
- Temperature Dielectric: NPO, X7R
- Application: EMI suppression filter

MLCC



- Voltage Range: 6.3V-5000V
- Cap Range: 1.2pF - 22uF
- Size: 0402 - 13060
- Dielectric: NPO, X7R, X5R
- Application: Industrial and commercial

Radial Leaded



- Voltage Range: 250V-10,000V
- Cap Range: .05pF - .47uF
- Size: .25 x .22 to .55 x .28
- Dielectric: NPO, X7R

Military



- B Level Voltage: 50V-500V
- Cap Range: 0.15uF - 47uF
- Size: Case Size 3, 4, 5
- Dielectric: BX, BR, BQ
- T (Space) Level Qualified Products Available
- Application: Military

Planar Arrays



- Voltage Range: 50V-1000V
- Cap Range: 100pF – 1.5uF
- Size: Custom/Standard: Circular, Sub D, ARINC
- Dielectric: NPO, X7R
- Application: Connectors, low-pass filter



High Temperature Capacitor to 300°C – coming soon

- Industrial, aerospace, automotive, downhole applications
 - Dielectric (NPO,NCT,X7R)

Multilayer Ceramic Capacitor AEC-Q200 – Available now

- Automotive and space applications
 - Size 0201 to 1210
 - 10 Volt to 1kV
 - Dielectric (C0G & X7R)

Ultra-Cap MLCC AEC-Q200 – available now

- Automotive and space applications
 - Size 0201 to 1210
 - 10 Volt to 1kV
 - Dielectric (C0G & X7R)

Safety Cap MLCC - Available

- TÜV Certified and UL Certified
 - Size 0201 to 2225
 - 6.3 Volt to 4KV
 - Dielectric (C0G, X7R, X7S, X5R)

MLCC (Pulse & Detonation) to 200°C – coming soon

- Downhole, munitions, firing modules
- Single or multi-purpose application
- 10 Volt to 10KV
- Dielectric (NPO, NCT, X7R)
- Custom shapes and configurations
- Bleed resistors and other components
- Custom lead options

MLCC (Flexible Termination) - Available

- Reduces chance of cracking due to board flex
 - Size 0402 to 2225
 - 25 Volt to 4kV
 - Dielectric (Class I and Class II)

Thank You!

