JOHANSON DIELECTRICS
POWER ELECTRONIC SOLUTIONS

North American Owned & Manufactured

VARIABLE PITCH

CUSTOM LEADED CAPACITOR SOLUTIONS

To initiate your variable pitch capacitor design, contact JOHANSON engineers directly at:
https://www.johansondielectrics.com/contact/ask-a-question/

When Standard Lead Pitch Doesn't Fit

Get a Capacitor that Does!

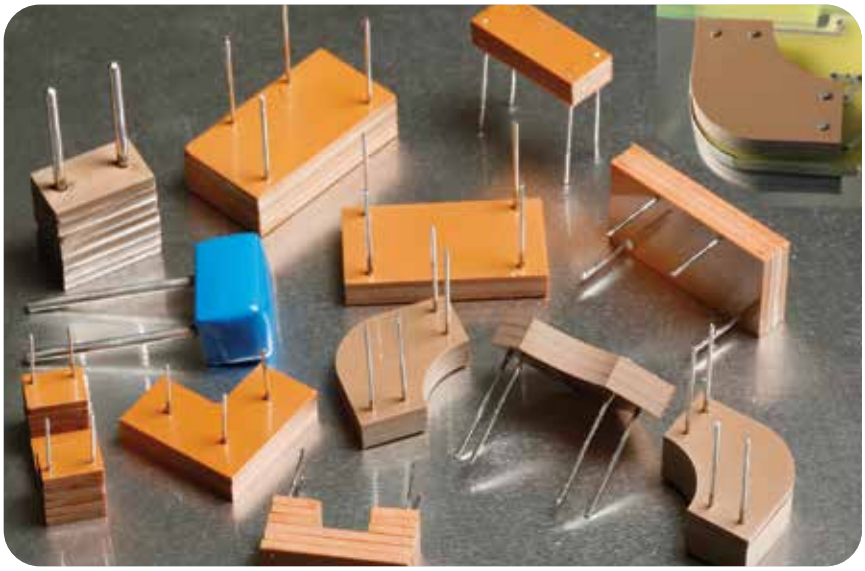
JOHANSON Dielectrics' Variable Pitch Capacitor design provides a flexible, tailored solution for electronic designs where standard capacitor lead spacing or geometry constraints pose integration challenges.

Engineered for design flexibility, this solution enables precise definition of lead spacing, footprint geometry, capacitance, voltage rating, and termination type—resulting in a capacitor uniquely matched to both electrical performance and mechanical layout requirements.

Ideal for applications requiring non-standard footprints, compact PCBs, or integrated multi-capacitor configurations, the variable pitch design allows for customized component layout without performance compromise.

Variable Pitch Capacitor Applications

- Space-Constrained PCBs
- Integrated Passive Assemblies
- Aerospace and Defense Electronics
- Power Conversion Systems and Filters
- Non-Standard or Legacy Board Layouts
- High-Reliability and Automotive Modules



Key Design Capabilities

- **Custom-Defined Lead Spacing and Geometry**
  Tailor lead pitch & physical layout to match specific PCB designs
- **Dielectric Options**
  Available in NP0/C0G for stability and X7R for high capacitance
- **Operating Temperature Range**
  Reliable from -55 °C to + 125 °C, suitable for defense, aerospace, industrial and automotive environments
- **Integrated Multi-Capacitor Assemblies**
  Multiple capacitive elements combined in one custom unit for space and performance efficiency
- **Multiple Construction Formats**
  Choose between bare ceramic, epoxy-coated, or potted configurations
- **Flexible Termination Options**
  Includes multi-pin, lead-frame, and flying wires for varied mounting needs

High Reliability Testing
In-House Capabilities

Johanson's United States based facility Camarillo, CA, Supports Full-Spectrum Hi-Rel Screening to comply with. . . MIL-PRF-31033, MIL-PRF-49470, and related QPL/MIL-STD levels.

Comprehensive Mil-Standard

- Testing Groups A, B and C

Environmental Testing

- Steam Age
- Life Testing
- Bend Testing
- Humidity Testing
- Wire Bond Testing
- Moisture Resistance
- Temperature Cycling
- HALT / HASS Testing
- Thermal Shock Testing
- Shock / Vibration Testing
- Resistance to Solder Heat
- Shear Test / Bond Pull Test
- Burn In / Voltage Conditioning
- Class H, K or S Element Evaluation

RF & Microwave Testing Expertise

- Vector Network Analyzer Measurements
- Resonant Line Measurements for ESR at Frequency

RESOURCE: **Simulation Software and Designer Libraries**

https://www.johansontechnology.com/downloads/designer-libraries/
https://www.johansontechnology.com/downloads/avago-appcad/
https://jtisoft.johansontechnology.com/

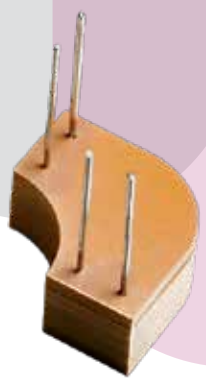
Electrical & Mechanical Inspections

- Hot IR Testing
- 100% Electrical Testing
- Full Data on Serialized Units
- Cap, DF, IR, DWV, Voltage Breakdown
- Temperature Voltage Coefficient (TVC)
- Temperature Capacitance Coefficient (TCC)
- 100% Visual Inspection (Mil 883 Class K or S Options)

Analytical Testing

- XRF Analysis
- SEM Inspection
- Solderability Testing
- Radiographic Inspection
- Destructive Physical Analysis (DPA)
- Acoustic Microscopy (Sonoscan) Inspection

Applications
for Johanson's Variable Pitch Leaded Capacitor Solutions



Aerospace / Defense Electronics

JOHANSON's Variable Pitch Capacitors are ideal for Avionic Systems, Radar Control Electronics and Communication Modules. These environments often present unique board geometries or mechanical envelopes where standard lead spacing doesn't fit. The customizable lead geometry enables direct fit to legacy or irregular PCB layouts, while maintaining performance under high vibration and wide thermal conditions ranging from **-55 °C to +125 °C.**

Energy / Drilling Equipment

High-voltage signal conditioning and filtering circuits in downhole drilling or surface power systems frequently require robust capacitors with custom footprints to accommodate mechanically demanding or high-thermal-stress enclosures. **The Variable Pitch Solution** offers tailored mounting options and high-temperature compatibility up to 200°C (when built X8R dielectrics), making it suitable for rugged energy environments.

Medical Imaging / Power Supply Modules

Power supply regulation in MRI, CT, and ultrasound machines demands capacitors with stable voltage performance and minimal EMI noise propagation. When board real estate is tightly packed with shielding and thermal constraints, the Variable Pitch Capacitor can be engineered with precise lead spacing and multi-capacitor integration in a compact footprint. This flexibility supports exact layout requirements in critical healthcare devices.

Semiconductor / Industrial Equipment

Cleanroom-compatible, high-reliability systems—such as photolithography, plasma etching, and automated test equipment—benefit from custom pitch capacitors that eliminate the need for lead re-bending or layout changes. Johanson's Variable Pitch solution allows precise footprint matching for decoupling capacitors in noise-sensitive environments, improving assembly efficiency and mechanical reliability.

EV Charging Infrastructure / Power Conversion

Power modules used in EV fast chargers, on-board converters, and battery testing equipment often feature non-standard form factors and require capacitors that suppress high-frequency switching noise. With options for epoxy-coated construction and multi-lead configurations, Johanson's Variable Pitch Capacitors integrate easily into existing module housing, providing a cost-effective alternative to rigid-lead commercial stacks.

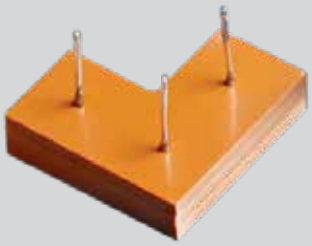
Why Choose JOHANSONS's
North American Manufactured Discoidal Capacitors?

- **American Privately Owned:** North American manufacturing ensures ITAR compliance, rapid lead times, and stable production
- **Hi-Reliability Testing and Design:** In-house MIL-PRF-31033 testing supported by decades of engineering expertise retained in the U.S.
- **Cutting-Edge Hi-Rel Equipment:** Advanced lab infrastructure enables full MIL-spec electrical, mechanical, & environmental testing under one roof
- **Military-Certified Infrastructure:** In-house testing for MIL-PRF-31033, MIL-STD-202, and MIL-C-123
- **High Capacitance Density:** Achieve large energy storage in compact formats
- **60 Year Legacy:** Of capacitor innovation solutions

CERTIFICATIONS
AS9100 | CTPAT | ITAR

Contact JOHANSON Dielectrics:
Technical engineers will assist you with your unique, high reliability, design requirements.

Additional Resources - Variable Pitch Custom Leaded Capacitor Solutions



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Data Sheet PDF Download:
https://www.johansondielectrics.com/docs/3788/variable-pitch-capacitors.pdf

Product Catalog:
https://www.johansondielectrics.com/downloads/johanson-dielectrics-catalog/

Webpage for Detailed Product Information:
https://www.johansondielectrics.com/products/leaded-capacitors/variable-pitch-capacitors/

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