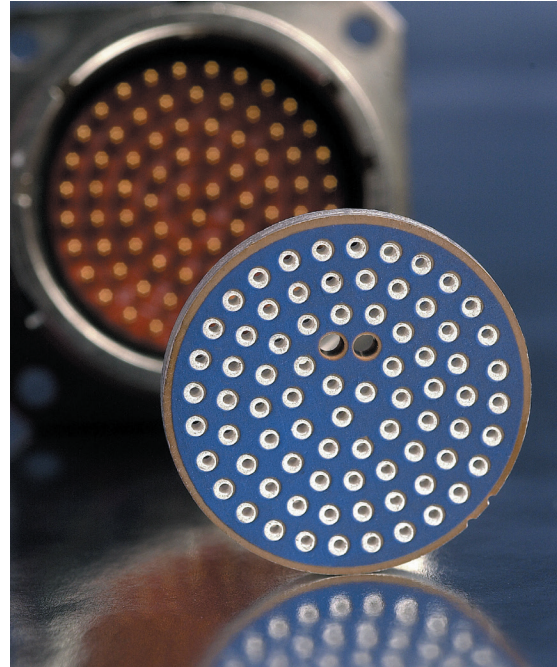
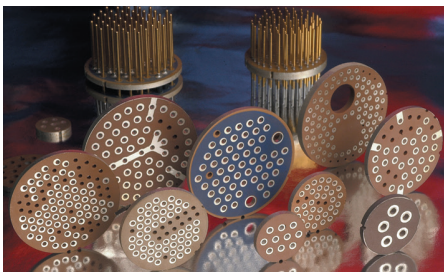


PLANAR CAPACITOR ARRAYS FOR EMI FILTERING

Johanson Dielectrics is the premier supplier of EMI Planar Capacitor Filter Arrays to the Filtered Connector Industry. Planar Arrays were introduced to the electronic industry in the 1980's, and achieved preeminence in the early 1990's when they were tested and accepted as the capacitor design of choice in military applications. Today they are the fundamental building block for filtered connectors found in Aerospace, Biomedical, Military, Satellite, Industrial and Communication electronics. Many of Johanson Dielectrics core staff were instrumental in the development of this technology. Johanson Dielectrics continues to push the envelope in array technology by extending the performance limits of our product and designing innovative and quality-focused solutions to customer challenges. Johanson Dielectrics offers array product lead times that are consistently half those of our competitors, even for the most complex products. Our design engineering strength enables incorporation of seemingly impossible combinations of capacitance values, voltage ratings, and complex geometries at competitive prices. With nearly 3,000 existing designs from 2 pins to 155 pins, there is a good chance we have a design waiting for you.

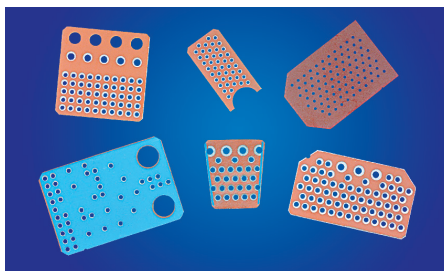


CIRCULAR ARRAYS



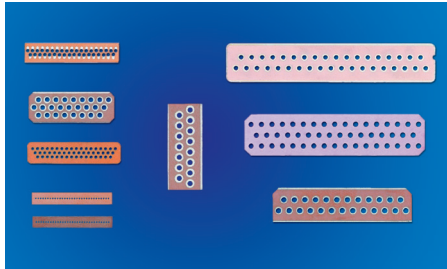
Physical Layout	Dielectric Material	Available Capacitance	Working Voltage	DWV Voltage
MIL-1560 MIL-1554 MIL-1669 MIL-1651 MIL-1698 MIL-33702 MIL-AUDIO	X7R & NPO	47 pF to 800 nF	Up to 2,000 VDC	Up to 3,000 VDC

RECTANGULAR ARRAYS (ARINC 404/600)



Physical Layout	Dielectric Material	Available Capacitance	Working Voltage	DWV Voltage
AR-010 Through AR-150	X7R & NPO	47 pF to 940 nF	Up to 1,330 VDC	Up to 2,000 VDC

D-SUBMINATURE RECTANGULAR ARRAYS

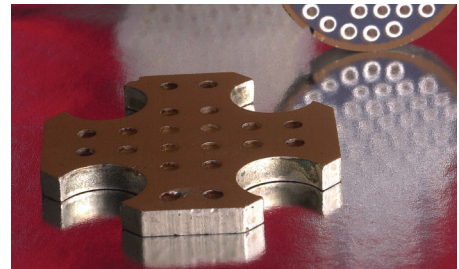


Physical Layouts	Dielectric Material	Available Capacitance	Working Voltage	DWV Voltage
Full Size	X7R & NPO	47pF - 210nF	≤ 2,400	≤ 3,600
Mini-D		47pF - 100nF	≤ 1,000	≤ 1,500
Micro-D		47pF - 22.5nF	≤ 680	≤ 1,020
Nano-D		47pF - 3.0nF	≤ 200	≤ 500
Combo-D		47pF - 6.0nF	≤ 800	≤ 1,200
Power-D		47pF - 120nF	≤ 680	≤ 1,020
Special		47pF - 50nF	≤ 300	≤ 750

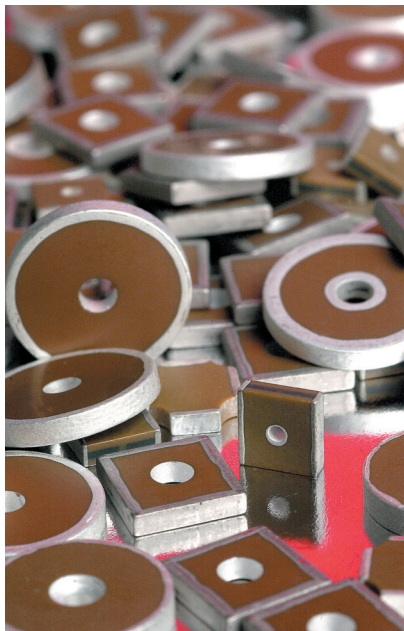
CUSTOM ARRAYS

Johanson Dielectrics' design expertise and flexible manufacturing process enable a virtually unlimited custom array capability. Any shape, configuration or geometry is possible, and the performance characteristics of our arrays are only limited by the physics of the materials being used, and Johanson Dielectrics & Johanson engineering is constantly focused on new material development to establish new limits.

If you have a requirement and someone has said NO, call us because we want to say YES!



DISCOIDAL CAPACITORS



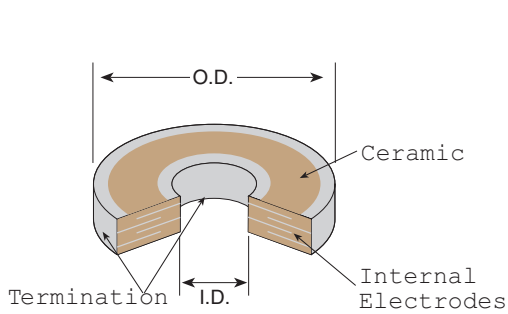
Johanson Dielectrics Discoidal Feed-through Capacitors are the functional element in the popular and widely used EMI feed-through filters.

Johanson Dielectrics Discoidal capacitors are versatile in meeting varied customer voltage, capacitance and dimensional requirements. These multi-layer capacitors are non-polar, small, reliable and high in dielectric strength. These devices have very low impedance in their ground paths as their design allows the signal many (up to 100) paths to ground. Discoidal capacitors are ideal for by-pass, filtering, coupling, single line EMI/RFI suppression, and high frequency applications.

- Robust construction, resist damage from handling
- Capacitance values from 10 pF to 11.2 μF
- Test standards and procedures per MIL-STD-202 and MIL-C-123
- Voltage ratings from 50 to 3000 VDC and 50 to 240 VAC
- Low ESR and ESL, non-polar designs
- Nearly any outside/inside diameter combination, circular or square

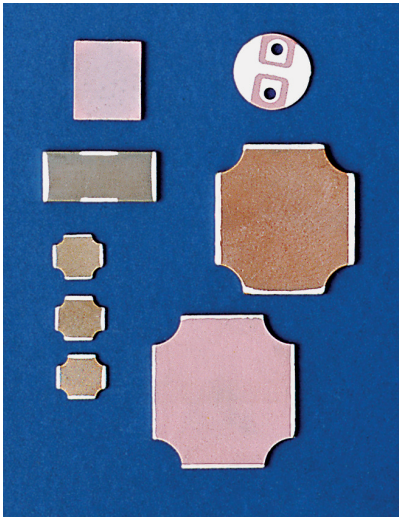
While our discoidal product line is far too varied to list all available combinations, performance characteristics for some of our popular models are listed on the next page. Call us to discuss your special requirements!

DISCOIDAL EMI CAPACITORS



Nominal O.D. (")	Dielectric Material	Available Capacitance	Inside Diameter (")	Thickness (")	Rated Voltage
0.100 ±.005	X7R & NPO	10 pF – 66 nF	0.025 ±0.048	0.025 ±0.070	Up to 200 VDC
0.150 ±.005		10 pF – 200 nF	0.037 ±0.058	0.025 ±0.070	Up to 200 VDC
0.335 ±.005		10 pF – 2.8 µF	0.034 ±0.088	0.040 ±0.110	Up to 500 VDC
0.345 ±.005		10 pF – 6.0 µF	0.040 ±0.085	0.055 ±0.110	Up to 750 VDC
0.376 ±.005		10 pF – 8.0 µF	0.050 ±0.075	0.065 ±0.125	Up to 750 VDC
0.643 ±.005		10 pF – 15 µF	0.063 ±0.080	0.055 ±0.150	Up to 750 VDC
0.840 ±.005		10 pF – 20 µF	0.050 ±0.075	0.080 ±0.130	Up to 1000 VDC

X2Y® TECHNOLOGY PRODUCTS



Johanson Dielectrics X2Y® capacitor products employ a unique, patented internal design in which common shielding electrodes form a Faraday Cage around traditional capacitor electrodes. This nearly eliminates parasitics and creates two matched capacitors that are immune to temperature, voltage and aging performance differences. Available X2Y® products include planar capacitor arrays, discoidal capacitors, and large format chip capacitors offering the following performance advantages:

- Significantly Lower EMI With One Component
- Provide Superior Noise Suppression
- Offer Differential And Common Mode Attenuation
- Match Capacitance Line To Ground On Both Lines
- Provide Low Inductance Due To Cancellation Effect
- Reduce Component Count Whether Filtering Or Decoupling
- Reduce Space Required For Passive Components
- Significantly Increase Operating Bandwidth

X2Y® filter products provide optimal filtering and noise suppression solutions for DC motors, broadband filtering, filtered connectors, power line inlet modules, fiber optic and cellular applications.