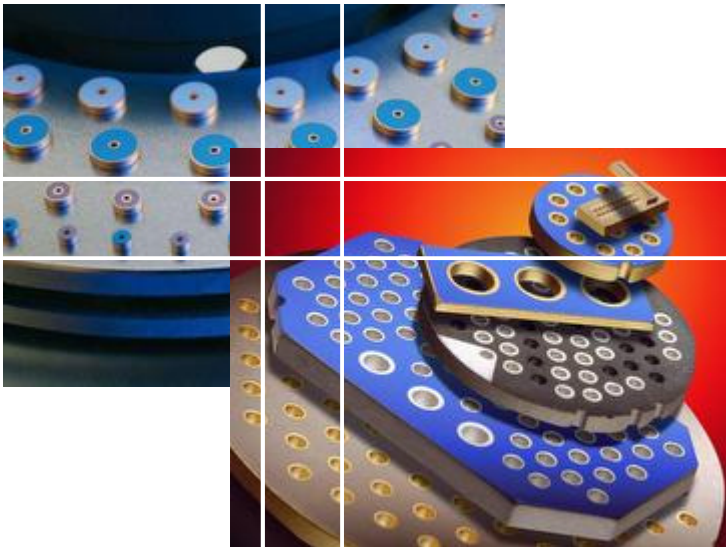


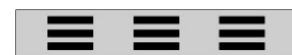
PLANAR ARRAYS & DISCOIDALS

- Planar Arrays—Characteristics & Applications
- Discoidals—Characteristics & Applications



Wet Wet Process

Ceramic material is milled to a wet dross and then screen printed on a glass substrate under clean room conditions. At this stage the thickness of the substrate is measured using a laser monitoring system. After that the plates are cut into the single elements and then separated from the glass substrate using an ultrasonic process. They are then baked and sintered which also eliminates the organic binder. In a tumbling process the edges of the elements are smoothed which enables a better adherence of the metallization. Once the contacts are plated the final inspection and taping takes place.



Wet Process



Dry Process

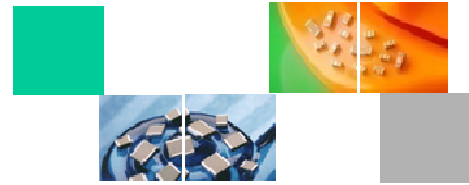
Major advantage of wet wet process:

- ◆ *Less handling steps*
- ◆ *Homogeneous structures*
- ◆ *Better stack accuracy*
- ◆ *Less mechanical stress (no pressing)*
- ◆ *Good resistance against thermal shock*
- ◆ *Continuous process and quality*

We are offering the following manufacturer



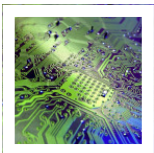
Syfer is the Number 1 supplier in the world. Today they have already supplied more than 3000 individual design planar arrays. All Major filter manufacturers are supplied with Syfer's Discoidals and Planars.



PLANAR ARRAYS

Planar arrays were introduced in the 1980s. In the early 1990s they were mainly used for military applications. However the development went on and today you can find customized arrays in several multi-line EMI/RFI filter circuits.

Applications for Planar Capacitor Arrays



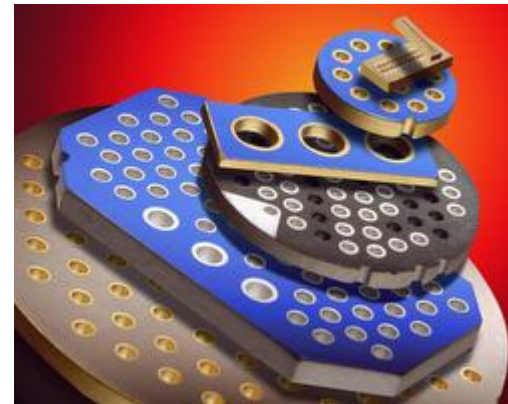
Industrial & Communication



Military & Aerospace

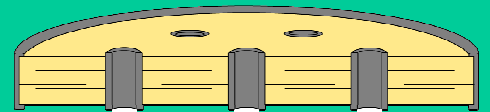


Biomedical



Planar Arrays

Planar Capacitor arrays are build of a unitary block of ceramic (@ Syfer only stable dielectrics like X7R,NPO and MOV are used).

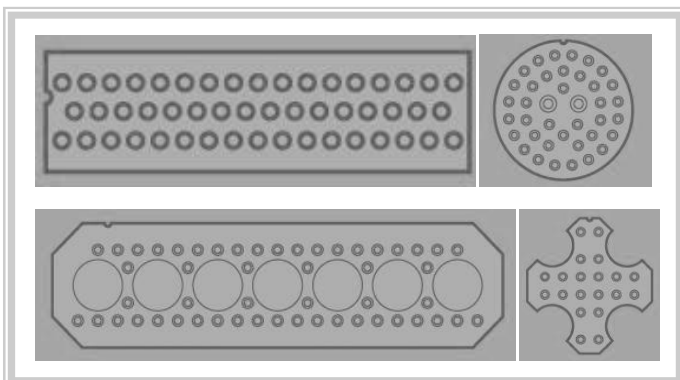


They may contain multiple capacitors where the capacitance is provided between the outside perimeter (ground) and the internal via holes.

The standard termination finish is gold over nickel plate. Options include AgPd or AgPt

Major Advantages of Planar Capacitor Arrays

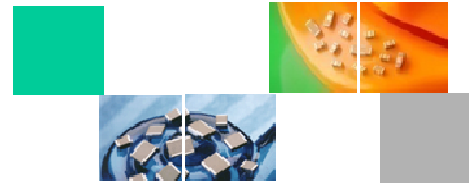
- Low weight
- Low volume
- Great performance & reliability
- Bi-directional effectiveness
- High Voltage capability (DWV to 10kV)



Available Designs of Planar Capacitor Arrays

- Circular (MIL-C-38999, MIL-C-26482)
- Arinc 404 and 600
- D sub
- High density D sub
- μ D (MIL-C-83513)
- Nano D
- Custome Designs of any shape

A maximum thickness of 3.18mm and a maximum diameter/square of 100mm is available.



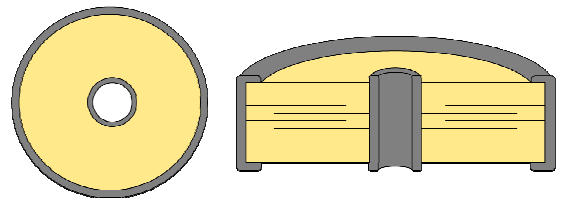
Discoidals

Discoidals are the heart of almost all panel mount EMI Filters. Their versatile nature makes them suitable for bypass as well as filtering applications. Their internal construction is just the same as for standard MLCC's. However their circular shape enables them to have optimum filtering performance.



Major Advantages of Discoidals

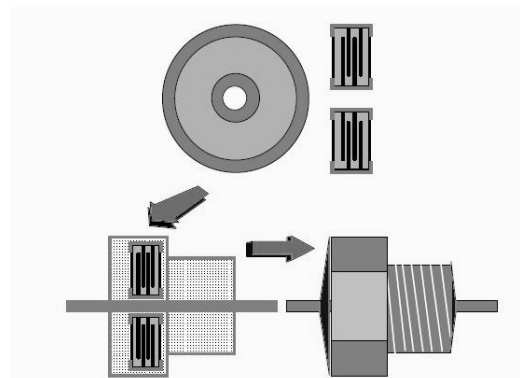
- Due to their geometry: excellent RF performance
- High self resonant frequency
- Low self inductance



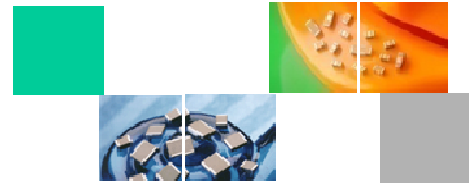
Size	2.5mm to 25mm outer diameter
Dielectrics	X7R, COG, MOV
Capacitance Range	10pF to 4.7μF
Capacitance Tolerance	down to ± 2% available
Operating Temperature Range	-55°C ... +125°C (X7R, COG)
Termination Options	Gold over Nickel, Silver-Palladium, Silver-Platinum

Discoidal Filters vs. Ceramic Tubular Capacitors:

- Discoidals are more complex to manufacture
- Discoidals are more durable over temperature
- Discoidals are not that sensitive in regards of mechanical stress and are therefore more robust to withstand the Filter assembly process
- Discoidals offer a wider capacity range
- Discoidals have very low ESL



Please note that MIL-PRF-28861 does not allow tubulars due to their unreliability under physical stress. Therefore Discoidals are the right choice for demanding applications. For further information please see: <http://www.dsccl.dla.mil/Downloads/MilSpec/Docs/MIL-PRF-28861/prf28861.pdf>



Testing and Approval Options for Planars and Discoidals

Standard Testing includes:

- ◆ Capacitance
- ◆ Dissipation Factor
- ◆ DWV
- ◆ Insulation resistance
- ◆ Visual Inspection
- ◆ Sample Solerability
- ◆ Dimensional Check
- ◆ Random Load Test 1000h@ 125°C

The Syfer Plant is certified according to:

- ISO 9001: 2008
- ISO 14001: 2004
- OHSAS 18001:2007



Optional: 100% Scanning Acoustic Microscopy (SAM) Testing available. SYFER Planar Capacitor Arrays do also have the NASA approval to be used in the ISS.

Do you need customized Products?

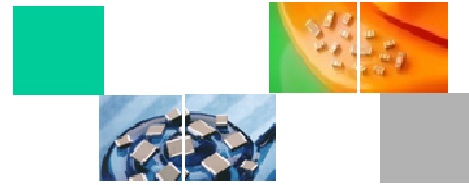
Due to the long experience in the ceramic manufacturing area. Syfer is able to provide you with detailed technical feedback and you are more than welcome to discuss your technical requirements with wts//electronic components and Syfer. Having an EMI Filter assembly line in house, Syfer is also willing to support you with specialties like:

- ◆ Larger Pin Diameters
- ◆ Contract Assemblies for connector companies
- ◆ Special body/pin finish
- ◆ Closer pin pitching



Please feel free to contact us at:

marketing@wts-electronic.de



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Passive and electromechanical Solutions

Services

Logistic Concepts



Order our LINECARD today!

CONTACT

wts// electronic components GmbH

Fon: +49 (0) 5130 / 5845-0

Fax: +49 (0) 5130 / 375055

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www.wts-electronic.de

We are looking forward to hear from you!