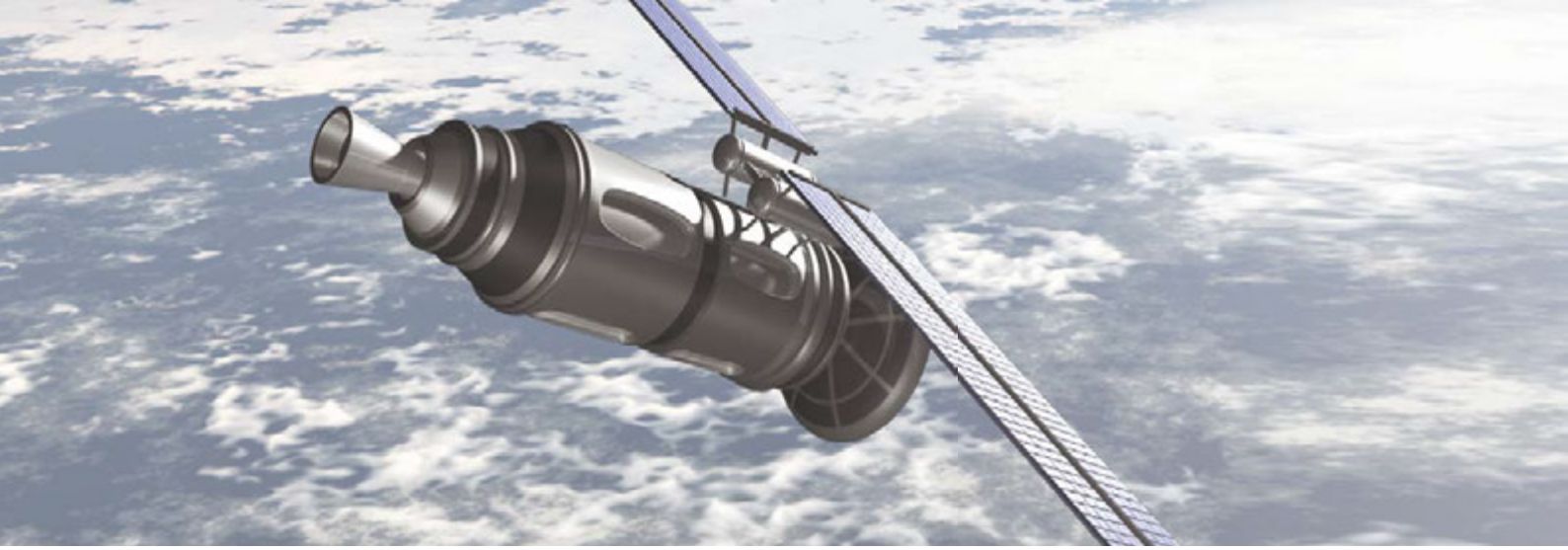


Space Applications Selection Guide





WHO IS EXXELIA

EXXELIA is a manufacturer of ruggedized passive components and precision subsystems focusing on highly demanding end-markets, applications and functions. With more than 30 years of heritage in Space, EXXELIA combines engineering and manufacturing know-hows to provide qualified and cost-effective solutions.

Thanks to an extensive sales network covering more than 30 countries, EXXELIA is able to provide prompt in-depth technical expertise throughout a project and remain close to its clients at all stages from design to production.

OUR APPROACH

- Quality Multi-Step Process Inspection
- Obsolescence management
- Use of low outgassing materials only
- Design & Engineering support
- Custom designs

EXTENSIVE PRODUCT PORTFOLIO DEDICATED TO SPACE

CAPACITORS



MAGNETICS



ELECTROMECHANICAL



EXXELIA AT A GLANCE

1900



Employees

13
Manufacturing
Locations



50 ESA
Qualified Series

ISO 9001
EN 9100
AS 9100
Certified



In more than
30 countries

1
Stop Shopping

TWO COMPLEMENTARY OFFERS

COMPREHENSIVE ESA QPL PRODUCT PORTFOLIO

Maintain and widen the list of our Qualified Product Series to confirm our position in the traditional Space Market.



COST EFFECTIVE SOLUTIONS

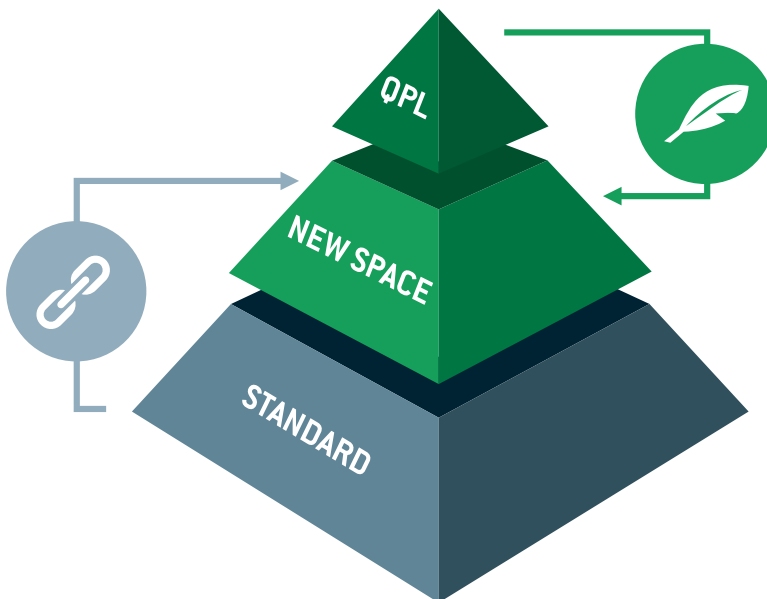
Offer new space components to answer the need of increased competitiveness and quicker go-to-market.

OFFER FOR NEW SPACE

ENHANCED RELIABILITY

Additional screening included in our process.

All parts ready to use without additional incoming screening.



A LIGHTER PROCESS FROM A TO Z

Reduced inter-operation inspections.

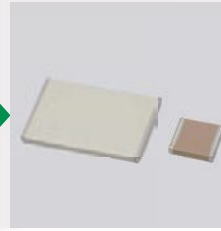
No LAT test, no paperwork.

Delivered with a standard CoC only.

Capacitors

Custom design available on request

High voltage
SMD
C48X Ceramic: high capacitance values,
high stability under voltage



C Series

Sizes 1812 to 6550

NPO, X7R & C48X
200 V_{DC} to 10 kV_{DC}
10 pF to 6.8 μF
-55°C +125°C



CEC / CNC Series

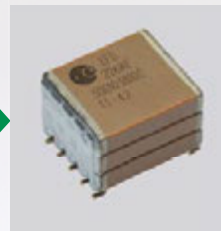
Sizes 0402 to 2220

NPO & X7R
10 V_{DC} to 1000 V_{DC}
1 pF to 3.9 μF
-55°C +125°C



Miniaturization
Exxelia is the only manufacturer qualified in 10 V
Polymer termination in QPL:
absorption of thermo-mechanical stresses

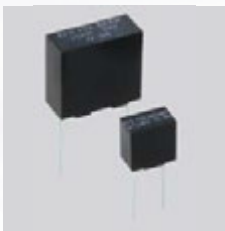
High capacitance
Stacked technology
SMD or through-hole connections



CNC 3X & 5X

Sizes 2220 to 6080

X7R
16 V_{DC} to 500 V_{DC}
100 nF to 180 μF
-55°C +125°C



Radial Capacitors

TCF, TCK Series

NPO, X7R & C48X
63 V_{DC} to 10 kV_{DC}
10 pF to 6.8 μF
-55°C +125°C

High voltage
Molded, or conformal coated cases
C48X Ceramic: high capacitance values,
high stability under voltage

Ultra High-Q
High capacitance
Low ESR
High self resonant frequencies
Ribbon leads for SMD



CH / SH Series

Sizes 0505 & 1111

P100 & NPO
Up to 1500 V_{DC}
0.1 pF to 1000 pF
-55°C +175°C

Ceramic - Film - Tantalum



PHM Series

PEN HV
250 V_{DC} to 1000 V_{DC}
0.15 μ F to 68 μ F
-55°C +155°C

High temperature +155°C
Very high energy density
Less capacitors for the same function

High energy density
Low ESR & ESL
Light weight

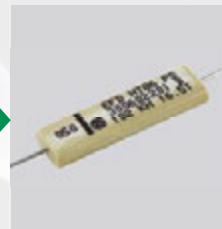


PM Series

Metallized PET
50 V_{DC} to 1250 V_{DC}
0.022 μ F to 180 μ F
-55°C +125°C



High voltage
Up to 100 kV on request



HT Series

Reconstituted Mica
1500 V_{DC} to 20 kV_{DC}
100 pF to 1.5 μ F
-55°C +125°C

Standard CLR79 / CLR81 & CLR93
SMD version available
Hermetically sealed tantalum cases



CT79 & ST79

Wet Tantalum
6 V_{DC} to 125 V_{DC}
1.7 μ F to 2200 μ F
-55°C +125°C
Case size A, B, C, D



MIL M39006/22 level M
MIL M39006/25 level M



MIL 39006 22/25 Series

Wet Tantalum
6 V_{DC} to 125 V_{DC}
1.7 μ F to 1800 μ F
-55°C +125°C
Case size T1, T2, T3, T4



CTC21 & SMT47 Series

Solid Tantalum (MnO₂)
6.3 V_{DC} to 63 V_{DC}
5.6 μ F to 680 μ F
-55°C +125°C
Case size C, D

Very High Capacitance (100 μ F @ 35V)
High reliability
Stacked version available

Wound Magnetics Components

Catalog products and custom designs from already qualified technologies

Generic standards: ESCC 3201 and MIL-STD-981

Overmolded components

Shock 100g & vibrations 30g

SMD or Pin Through Hole terminations



SESI Technology

Common Mode Chokes CMC 15-22

4 mH - 0.5 A to 0.06 mH - 11 A

SMD filtering chokes SESI 9.1-32

700 μ H - 0.2 A to 4.7 μ H - 27 A

Custom transformers up to 150 W
-55°C +125°C

New qualification



CCM Technology

Custom transformers
Up to 150 W
Custom inductors
-55°C +125°C

Up to 30% more power density vs standard technology

Improved Rth

SMD terminations

QML technology

Ideal for multi outputs transformers

New qualification
TO Technology



Toroidal transfert Technology

Common Mode Chokes CMC 17-14

140 μ H - 7.2 A to 69.2 mH - 1.1 A
Custom designs

Multiple toroidal magnetic cores \Rightarrow more energy

Improved Rth

Custom product: current transformer



MSCI Series

MSCI 10K - MSCI 12K

MSCI 20K - MSCI H01

0.01 μ H - 750 mA to 10 μ H - 87 mA

Excellent Q-factor

ESCC 3201/008 qualified

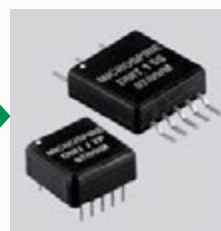
Perfect for RF applications

Low profile

Listed on ESA EPPL

According to MIL-STD-1553 A & B

Custom designs available



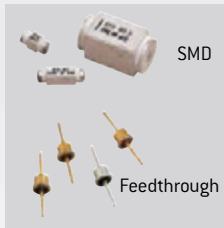
DBIT Series

Bus Transformers

3.81 mm to 17 mm high

Electromechanical Solutions

Custom design available on request



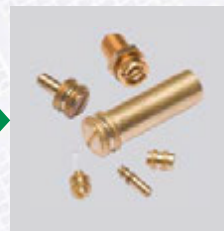
Miniature Filters

Ø 3 to 10 mm
25 V_{DC} to 100 V_{DC}
10 pF to 4.4µ F
Up to 35 A
-55°C +125°C
0 dB to 80 dB



Metallic package ⇒ better shielding
C, L, Pi, & T type filters
Perfect sealing (glass or resin)

High precision, frequency, resolution
Self-locking mechanism
Cavity filter, IMUX, OMUX, waveguide



Tuning Elements

Metallic
Dielectric Sapphire, Quartz, Alumina
Resistive
Up to 100 GHz (L to Ka band)
Custom designs

High precision, frequency, resolution
Low coefficient of thermal expansion
Ka, Ku, Q band & beyond



Invar Screws

Ø 1.2 to 2 mm
Finest Thread 0.25
Maximum Length 8 to 11 mm
Tolerances 6G

Slip-ring & potentiometer assembly
Bearingless ⇒ weight saving
Perfect for solar array and antenna drive mechanism



Slip ring Assembly

Slip ring	Potentiometer
Up to 150 tracks	Wirewound
1,6 A/track	Redundant
Signal or Power	Precision 0,15°

Electrical travel from 10 to 100 mm
Housing in anodized aluminum
or stainless steel



Linear Potentiometers

Linearity 0.1%
-55°C +125°C
Repeatability 10 µm



Rotary Potentiometers

Linearity 0.1°
-55°C +125°C
Shock 50g - 1/2 sinus - 11 ms
Vibrations 20g - 1.5mm
10 to 500 Hz

Single /dual rotary/pancake potentiometer
High performance
Miniaturization



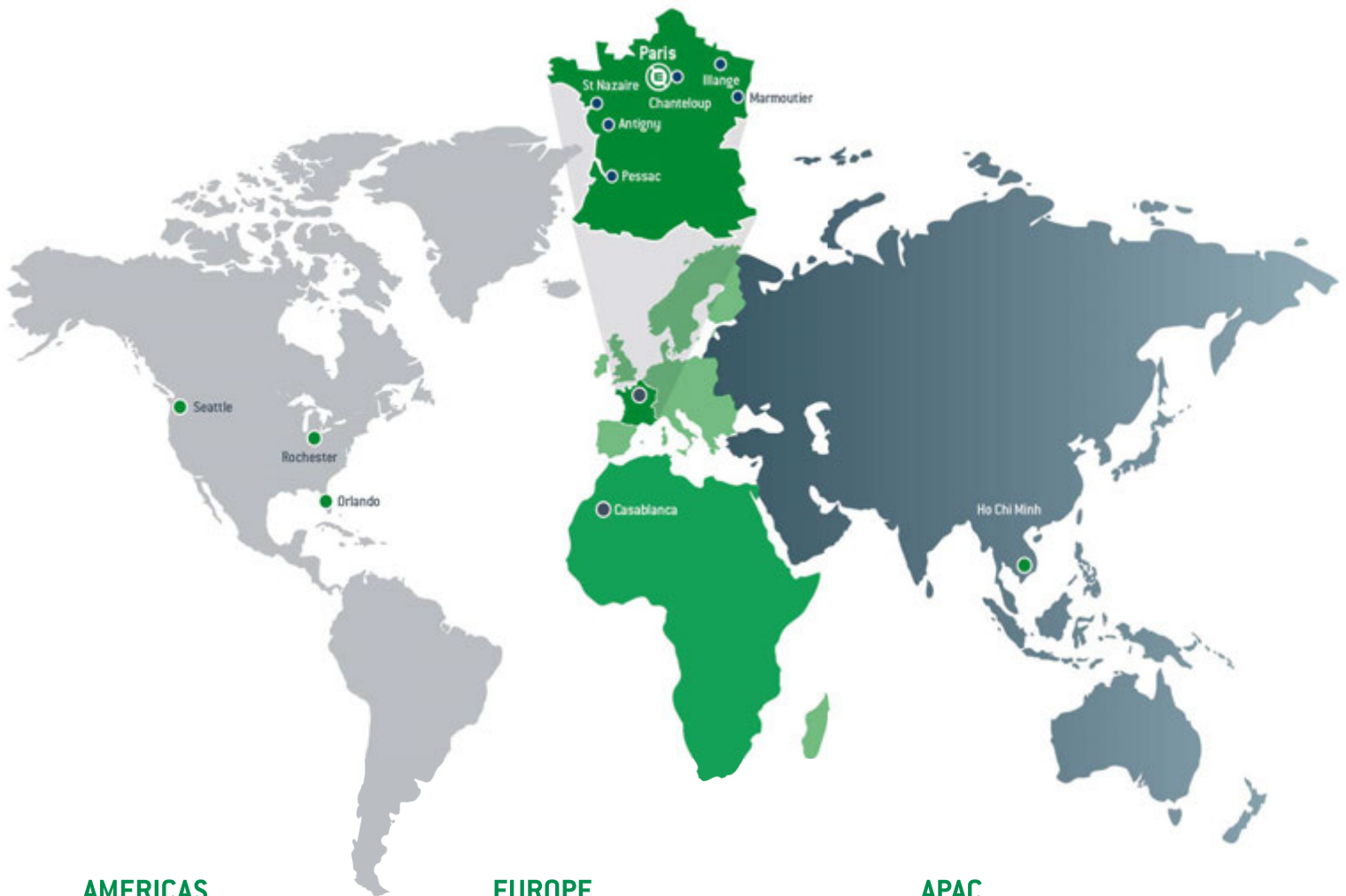
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