



High energy and ultra-low ESR CAPACITORS for Mission-Critical applications

Hybrid Tantalum Can, according to **DSCC 15010**

Benefits

- Space saving
- Fast discharge of a high quantity of energy
- Low heat generation for GaN amplifiers
- No voltage derating up to +85°C
- Unlimited shelf life

Applications :



Airborne Early Warning and Control System (AEW&C)



Directed Energy Weapons



Naval & Ground based Radars



Target designators

Exxelia, the French leading designer and manufacturer of capacitors dedicated to highly demanding applications, is proud to introduce a comprehensive new range of Hybrid Tantalum Capacitors.

This new WHC10 series offers a best-in-class energy density up to 1400 J/L while keeping the Equivalent Serial Resistance (ESR) extremely low typically 50mΩ. These products are housed in a hermetically sealed Tantalum case operating from -55°C to +125°C and are designed to withstand the most stringent environmental constraints.

This makes this new series ideal for use in Transmitter-Receiver Multi-Module (TRMM) for Phased Array Radars or in Pulse Laser generation.

EXXELIA achieves a new milestone in Tantalum Capacitors

The new Hybrid Can technology developed internally at EXXELIA will be used as a platform to drive a large family of high-performances products. Some first ratings (capacitance/voltage) are now available as detailed below while several additional ones are already on our roadmap and we'll be pleased to exchange on your specific application requirements so that a best-in-class solution can be proposed, as a custom design if required.

2021 Product Range (will be extended)*

EXXELIA PN	Description	Rated Voltage -55°C +85°C	Derated Voltage +125°C	Capacitance at 120 Hz and +25°C	Case Code	Max ESR at 1 kHz and +25°C	Equivalent to DSCC PN **
Voltage : from 50V to 100V – Capacitance : from 2200µF to 11000µF							
WHC101119K050F	WHC10 T1 11mF 10% 50V	50V	30V	11 mF	T1 (height 7,92mm)	50 mΩ	15010-17
WHC101308K080F	WHC10 T1 3mF 10% 80V	80V	48V	3 mF	T1 (height 7,92mm)	55 mΩ	15010-25
WHC101228K100F	WHC10 T1 2.2mF 10% 100V	100V	60V	2.2 mF	T1 (height 7,92mm)	65 mΩ	15010-29

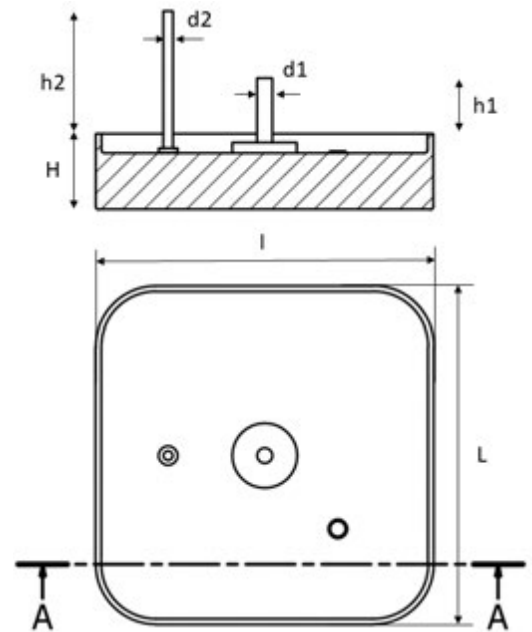
* Range under development and subject to change.

** Date of availability of DSCC qualified products to be confirmed

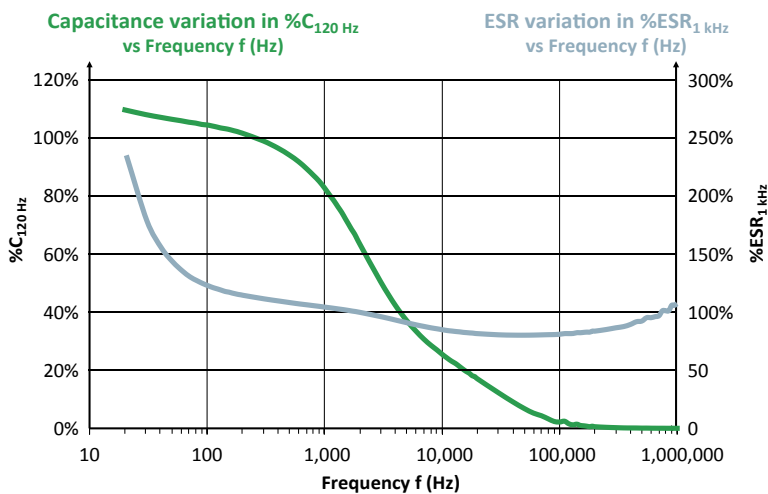
Technical Characteristics

Requirement	Test Method	Test condition
Shock (specified pulse)	MIL-STD-202-213	G (50 g)
Vibration, high frequency	MIL-STD-202-204	D (20 g)
Vibration, random	MIL-STD-202-214	II, letter E (19.64 g rms) 1.5 hours per axis
Thermal shock	MIL-STD-202-107	A (-55°C to +85°C)
Barometric pressure (reduced)	MIL-STD-202-105	D (30480 m, 100000 feet)
Lifetest at +85°C	DSCC 15010	2000 hours @ rated voltage
Lifetest at +125°C	DSCC 15010	2000 hours @ derated voltage

Dimensions



Capacitance and ESR vs. Frequency



Case code	L max	l max	H max	d1	h1 min	d2	h2 min
mm (inches)							
T1	35,56 (1.40)	35,56 (1.40)	7,92 (0.312)	1,63 (0.064)	5,84 (0.230)	1,02 (0.040)	12,70 (0.50)

Range extension will include additional case heights up to 19.18mm (0.755).

To learn more, visit us online at www.exxelia.com