Cylindrical DC Link Capacitor

A Cylindrical DC Link Capacitor is a vital component in power electronics used to stabilize and filter the DC voltage in the intermediate link between rectifiers and inverters. These capacitors are characterized by their cylindrical shape, which offers advantages in terms of compactness and ease of mounting in various electrical systems. They typically provide high capacitance values and low equivalent series resistance (ESR), which are crucial for reducing voltage ripple and enhancing the efficiency of power conversion processes.

Designed to handle high ripple currents, Cylindrical DC Link Capacitors are suitable for applications that require stable and reliable performance under high voltage conditions, such as renewable energy systems, electric vehicles, industrial drives, and uninterruptible power supplies (UPS). Their cylindrical form factor allows for efficient thermal management, contributing to better heat dissipation and improved operational reliability.

These capacitors feature self-healing properties and in-built fuses (segments), which enhance their durability and safety by mitigating the effects of electrical overstress. The cylindrical design facilitates easy integration into existing systems and offers versatility in terms of installation options, making them ideal for space-constrained environments. Available in a range of capacitance and voltage ratings, Cylindrical DC Link Capacitors provide the flexibility needed to meet specific application requirements. Overall, they are essential for ensuring the smooth operation and longevity of modern power electronic systems.

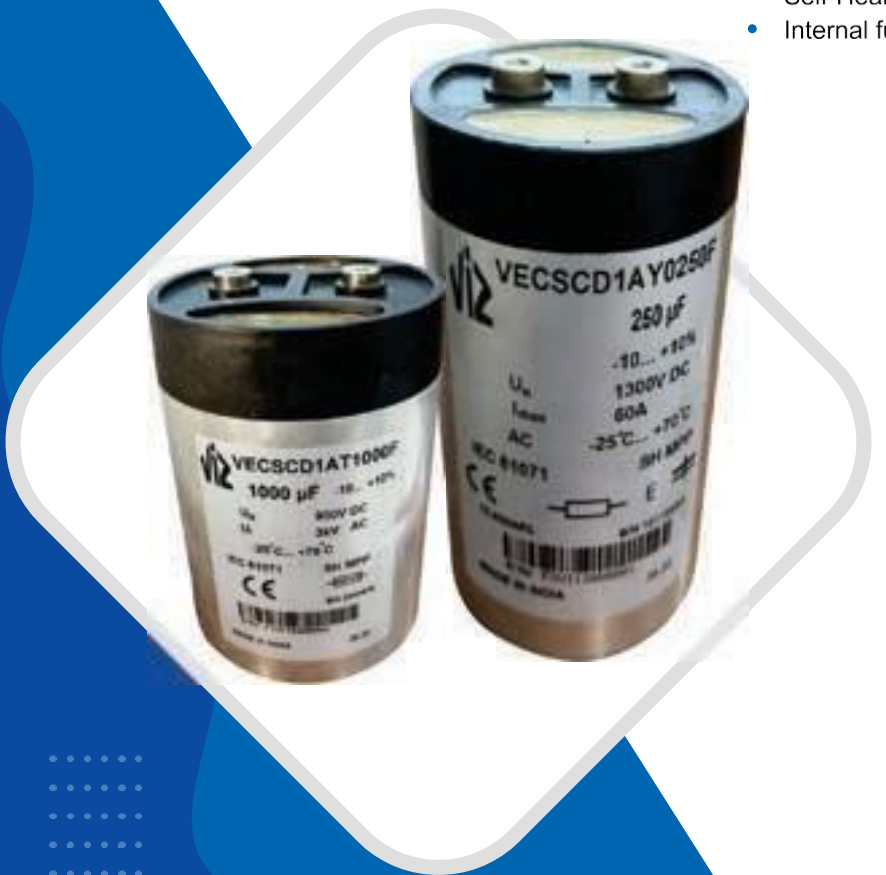
Technical Data

Applications: Electric vehicles, industrial drives, and renewable energy systems.

Voltage Range: Up to 2500 V DC.

Safety:

- Self-Healing Capacitor Technology
- Internal fuse via segmentation



Construction

- Dielectric: Metallised Polypropylene film
- Non-PCB, Impregnation- Biodegradable PU Resin
- Aluminium Case

Features

- Self-Healing Technology
- High partial discharge voltage
- High humidity resistance
- Low dissipation factor
- High insulation resistance
- Segmented Film design providing in-built fuses
- CE & RoHS Compliant
- NPCB, Biodegradable Polyurethane Resin

Technical data and Specifications:

Capacitance Value	Upto 3000 µF (* Higher ratings available on request)
Tolerance	±5%
Voltage Rating	Upto 2500 VDC
tan δ0 (dielectric)	$2x10^{-4}$
Voltage test between terminals	
V (Terminal to Terminal)	1.5 X U_{RMS} AC, 2 sec
Voltage test between terminals and case	
V (Terminals and Case) (Uiso) for 10 seconds	2*Ui + 1000 V or 2000 V whichever is the highest value
TMIN	-40 °C
TMAX	+70 °C
Storage temperature	-40 °C to +85 °C
Hot Spot temperature	+85 °C
Maximum Humidity	Max. 95% (non-condensing)
Life Expectancy	up to 100,000 hours * Greater life expectancy can be offered based on customer request
Impregnation	Biodegradable PU resin
Mounting position	Any
Terminals Type	As per customer requirement
Enclosure material	Aluminium
Reference Standard	IEC 61071