

xEVCap

Standardized and Modular DC Link
Capacitor Solution for Main Traction
Inverters in E-Mobility Applications

TDK Electronics AG

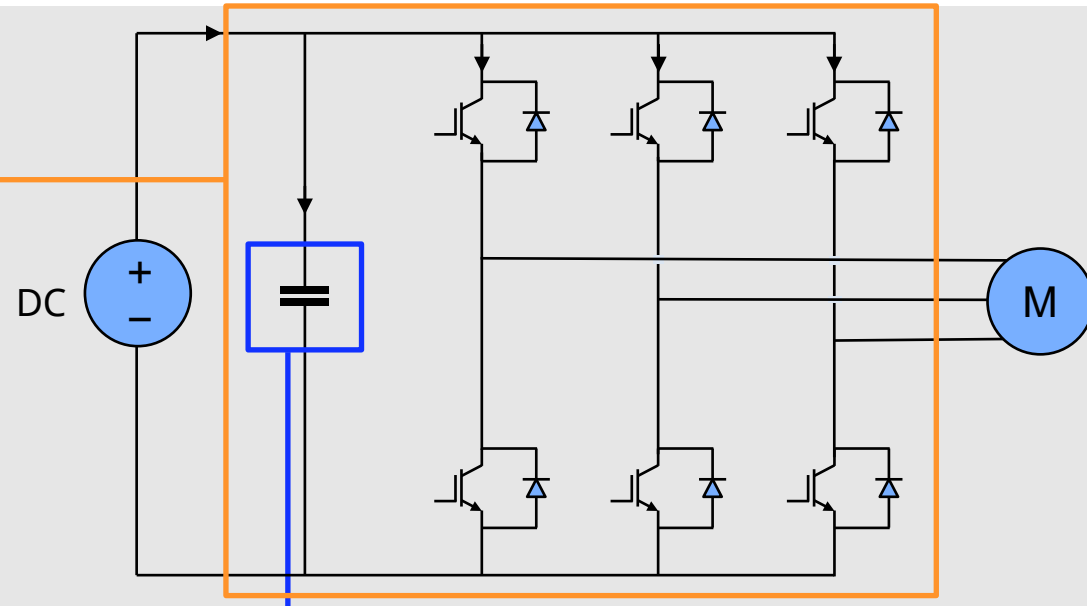
Aluminum & Film Capacitors

Business Group

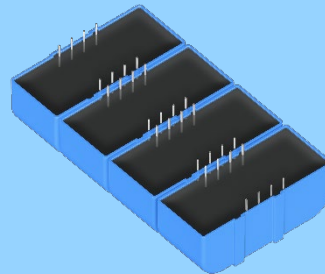
December, 2025



xEVCap: Circuit Position DC Link

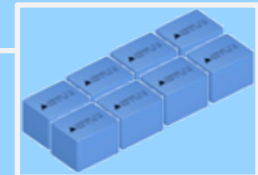


xEVCap




Classic approaches

- ▶ Block capacitor (PCC LP)
- ▶ Discrete film capacitor



xEVCap: Product Overview

| C_N | Dimensions | Ordering code | I_{max} | ESL | ESR | \hat{I} | I_s | MOQ | 3D CADs | |
|---|---------------------|-----------------|-----------------|-----------------|---------------------------|-----------|-------|--------|---|--|
| (120 Hz) [μ F] | (L x W x H) [mm] | | (10 kHz) [A] | (1 MHz) [nH] | (10 kHz) [m Ω] | [kA] | [kA] | [pcs.] | | |
| $V_R = 500$ V DC; $V_{MAX} = 525$ V; $V_s = 665$ V | | | | | | | | | | |
| 200 | 85 x 47 x 40.5 | B25654A5207K001 | 40 | 17 | 1.13 | 2.1 | 6 | 64 |  | |
| 270 | 109 x 47 x 40.5 | B25654A5277K001 | 50 | 17 | 0.89 | 2.8 | 8 | 48 | | |
| $V_R = 650$ V DC; $V_{MAX} = 750$ V; $V_s = 900$ V | | | | | | | | | | |
| 115 | 97.5 x 35.5 x 42.5 | B25654A6117K001 | 60 | 14 | 0.51 | 2 | 6 | 60 | | |
| 130 | 85 x 47 x 40.5 | B25654A6137K001 | 42 | 17 | 0.89 | 1.6 | 5 | 64 | | |
| 175 | 109 x 47 x 40.5 | B25654A6177K001 | 55 | 17 | 0.66 | 2.2 | 6.5 | 48 | | |
| $V_R = 850$ V DC; $V_{MAX} = 890$ V; $V_s = 1200$ V | | | | | | | | | | |
| 80 | 97.5 x 35.5 x 42.5 | B25654A8806K001 | 56 | 14 | 0.57 | 1.7 | 5.2 | 60 | | |
| 100 | 85 x 47 x 40.5 | B25654A8107K001 | 40 | 17 | 1.04 | 1.4 | 4.2 | 64 | | |
| 135 | 109 x 47 x 40.5 | B25654A8137K001 | 50 | 17 | 0.78 | 1.9 | 5.8 | 48 | | |
| $V_R = 920$ V DC; $V_{MAX} = 950$ V; $V_s = 1250$ V | | | | | | | | | | |
| 60 | 97.5 x 35.5 x 42.5 | B25654A9606K001 | 55 | 14 | 0.65 | 1.5 | 4.7 | 60 | | |
| 75 | 85 x 47 x 40.5 | B25654A9756K001 | 35 | 17 | 1.18 | 1.2 | 3.8 | 64 | | |
| 110 | 109 x 47 x 40.5 | B25654A9117K001 | 45 | 17 | 0.89 | 1.6 | 5.1 | 48 | | |

xEVCap: Supporting Tools

STEP Files

CLARA (Capacitor Life And Rating Application)

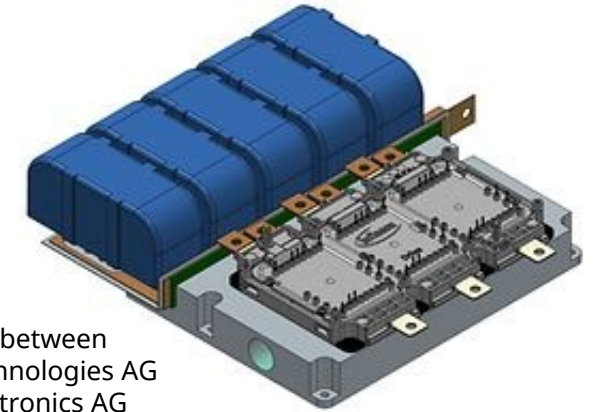
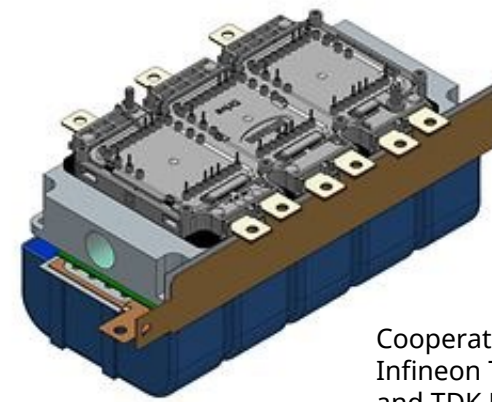
Spice Models

The screenshot shows the TDK CLARA web application interface. At the top, there is a navigation bar with the TDK logo and "TDK Electronics" text, along with "Home", "Contact", and "FAQ" links. The main content area is titled "Capacitor Life And Rating Application - General" and includes a "Help" button. Below this, there is a "Technology selection" section with a sidebar of search options: "Simple Search", "Advanced Search Application Based", "Application & Useful Life Simulator", "Capacitor Bank [Parallel] Simulator", and "Temperature - Humidity Bias life Simulator". The main area displays three categories of capacitors with checkboxes: "Film capacitors for PCB mounting" (unchecked), "Film capacitors for IGBT mounting" (unchecked), and "xEVCap" (checked). A large image of a capacitor bank is shown on the right.

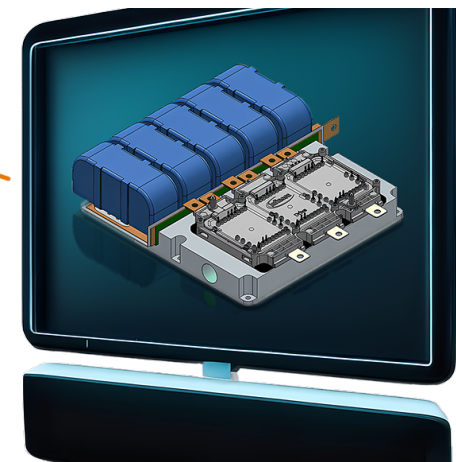
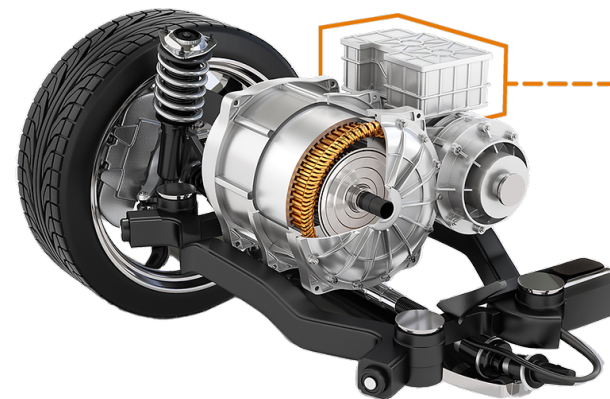
For CLARA: <https://www.tdk-electronics.tdk.com/clara> or „TDK CLARA“ in your web browser

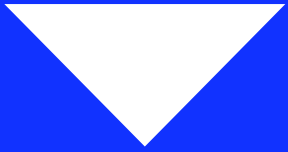
xEVCap: Applications and Product Profile

- ▶ **Traction inverters** are crucial components of modern electrified automotive powertrains
- ▶ TDK, as a leading company for DC link capacitors, is enabling power electronics suppliers with the **xEVCap** for **fast time to market** of inverters at **low total cost of ownership** (TCO)
- ▶ The **xEVCap** shows **high flexibility** in **power ranges** and **design changes** of the inverter and is perfect for **platform concepts** and **scalable designs**



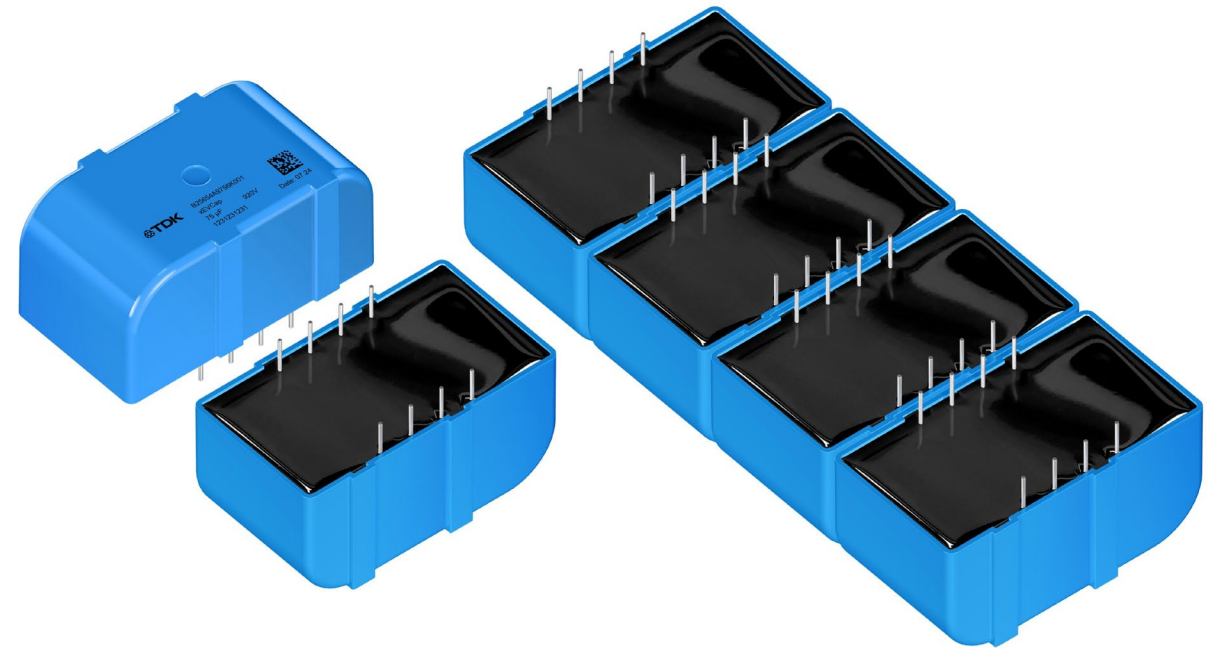
Cooperation between
Infineon Technologies AG
and TDK Electronics AG



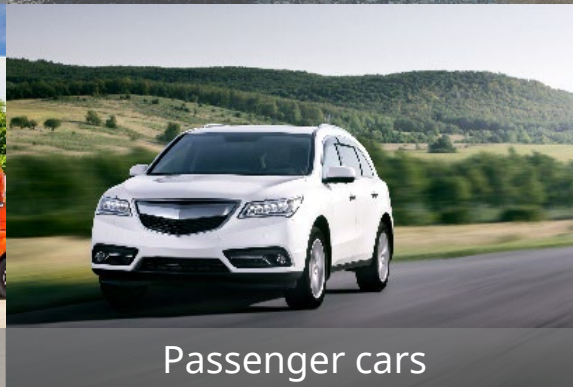


xEVCap: Features and Benefits

- ▶ High design flexibility in inverter design
- ▶ Fast time to market of the system (reduced coordination needs compared to bulk)
- ▶ Ideal for platform designs and scalable systems
- ▶ Available at distribution (samples and high volumes)
- ▶ Connection concept flexible: Busbar and PCB
- ▶ Online supporting tools available (CLARA)
- ▶ Reduced supplier and stock complexity



xEVCap: Applications





www.tdk-electronics.tdk.com