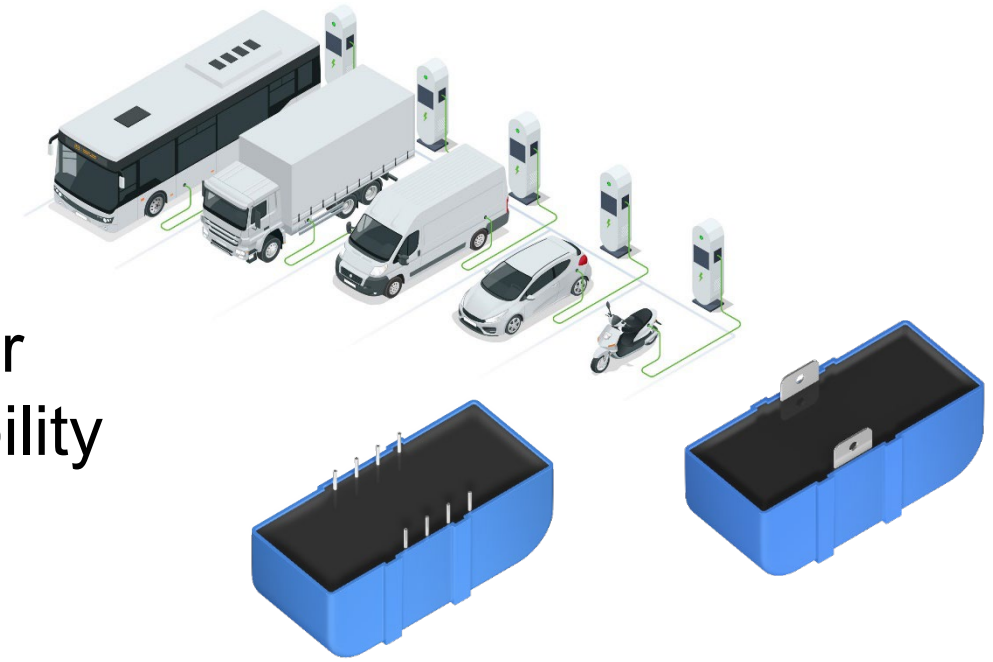
Attracting Tomorrow

xEVCap

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



TDK Electronics AG
Aluminum & Film Capacitors Business Group
Munich, Germany
August 2024

xEVCap: Circuit Position DC Link

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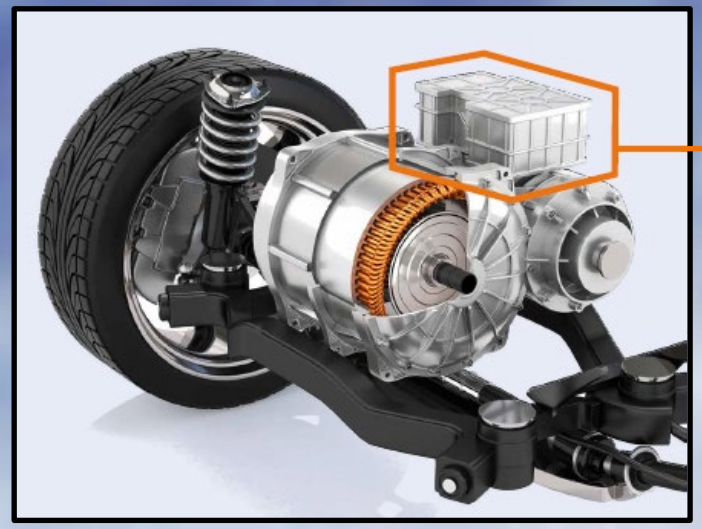

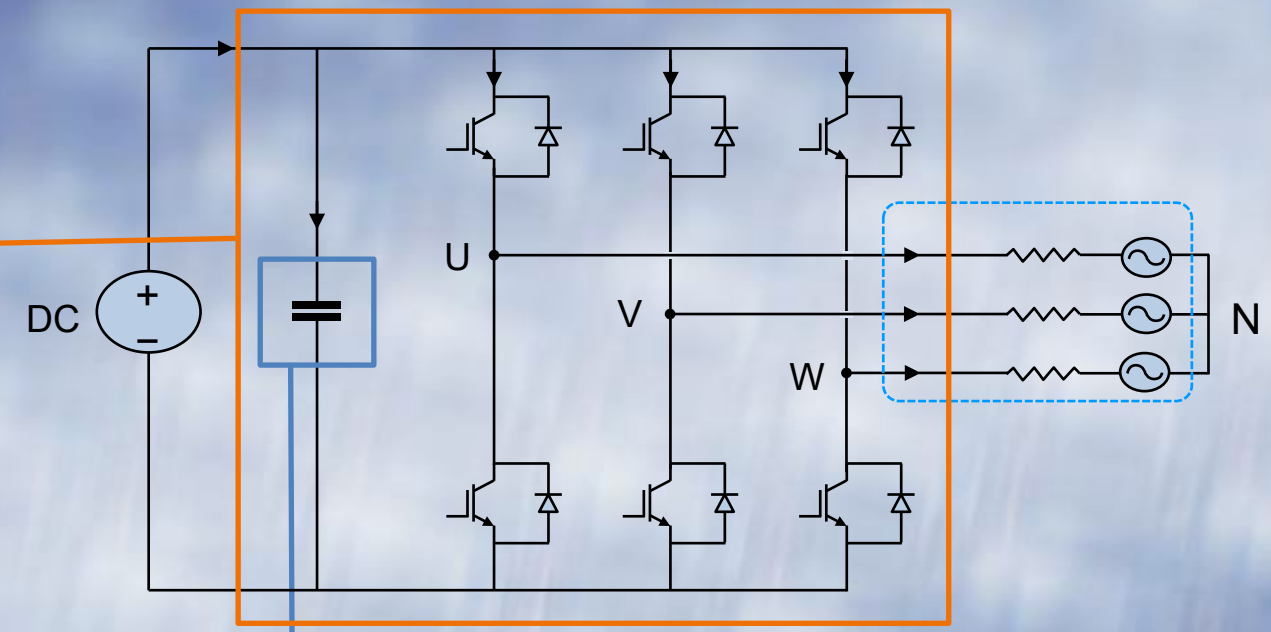

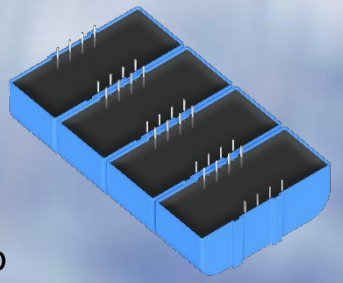

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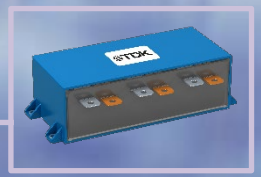
Classic approaches

- Block capacitor (PCC LP)
- Discrete film capacitor



xEVCap: Product Profile

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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 TCO** (total cost of ownership). The **xEVCap** shows **high flexibility** in **power ranges** and **designs changes** of the inverter and is perfect for **platform concepts** and **scalable designs**

Features and benefits

- High design flexibility at inverter design
- Fast time to market of system (reduced coordination needs compared to bulk)
- Ideal for platform designs and scalable systems
- Available at distribution (samples and MP)
- Connection concept flexible: Busbar and PCB
- Reduced supplier- and stock complexity

xEVCap: Product Overview

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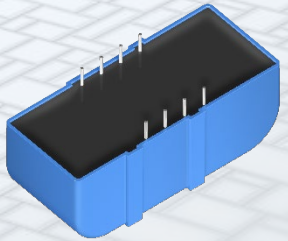
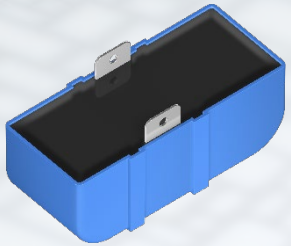
C_N (120 Hz) [µF]	Dimensions (L x W x H) [mm]	Ordering code	I_{max} [1] (10 kHz) [A]	ESL (1 MHz) [nH]	ESR (10 kHz) [mΩ]	Î [kA]	I_s [kA]	MOQ [pcs.]
U_R = 500 V_{DC}; U_{MAX} = 525 V; U_s = 665V								
200	85 x 47 x 40.5	B25654A5207K***	40	17	1.13	2.1	6	64
270	109 x 47 x 40.5	B25654A5277K***	50	17	0.89	2.8	8	48
U_R = 650 V_{DC}; U_{MAX} = 750 V; U_s = 900V								
115	97.5 x 35.5 x 42.5	B25654A6117K***	60	14	0.51	2	6	60
130	85 x 47 x 40.5	B25654A6137K***	42	17	0.89	1.6	5	64
175	109 x 47 x 40.5	B25654A6177K***	55	17	0.66	2.2	6.5	48
U_R = 850 V_{DC}; U_{MAX} = 890 V; U_s = 1200V								
80	97.5 x 35.5 x 42.5	B25654A8806K***	56	14	0.57	1.7	5.2	60
100	85 x 47 x 40.5	B25654A8107K***	40	17	1.04	1.4	4.2	64
135	109 x 47 x 40.5	B25654A8137K***	50	17	0.78	1.9	5.8	48
U_R = 920 V_{DC}; U_{MAX} = 950 V; U_s = 1250V								
60	97.5 x 35.5 x 42.5	B25654A9606K***	55	14	0.65	1.5	4.7	60
75	85 x 47 x 40.5	B25654A9756K***	35	17	1.18	1.2	3.8	64
110	109 x 47 x 40.5	B25654A9117K***	45	17	0.89	1.6	5.1	48

*** = 001: Wire leads *** = 002: Flat terminals

Dimensions A Dimensions B Dimensions C



Wire leads



Flat terminals

xEVCap: Supporting tools

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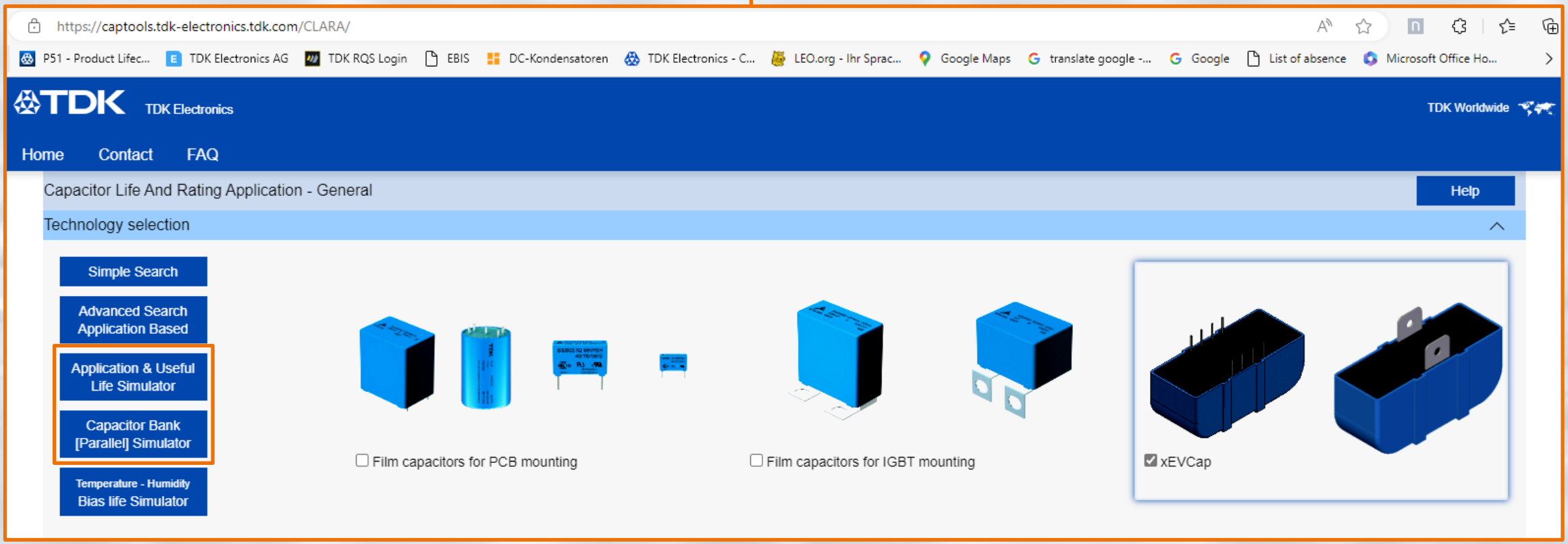
STEP files

CLARA (**C**apacitor **L**ife **A**nd **R**ating **A**pplication)

Spice models



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