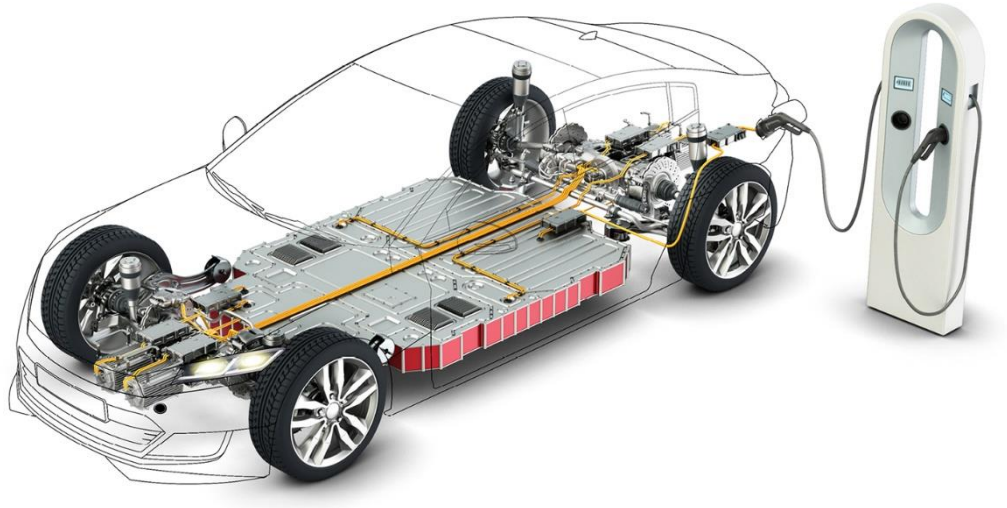
Attracting Tomorrow

TDK's leading Portfolio for **E-mobility**



Outline

- **Introduction**
- **CeraLink**™ - Ideal capacitor for Wide Bandgap Semiconductors
- **Cap Film DC** for e-Mobility
- **ALU Cap dedicated** to OBC and 48V DC-Link Inverters
- **HV Contactor** for high voltage DC switching
- **CarXield**™ standard EMC Filter
- **Power Transformers** & **chokes** for e-Mobility

Attracting Tomorrow TDK

At a glance

TDK Corporation is a leading electronics company. Our focus is on information and communication technology, automotive, industrial and consumer electronics markets. TDK's comprehensive portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, inductive devices, high-frequency components, and piezoelectric material products and circuit protection devices. Our product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads, and more. The portfolio is marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, North and South Americas.

Key info (fiscal year 2021, ending March 31)	
Business	• **Passive components** • **Sensor application products** • **Magnetic application products** • **Energy application products** • **Others**
Headquarters	**Tokyo, Japan**
Sales	**JPY 1,479 billion**
Sites	**More than 250 factories, R&D & sales offices in more than 30 countries and regions**
Employees	**129,000**

Major milestones	
1935	TDK (*Tokyo Denki Kagaku Kogyo* = *Tokyo Electric & Chemical Industries*) established in Japan to manufacture and commercialize ferrites
1986	SAE Magnetics acquired
2005	Amperex Technology Limited (ATL) acquired
2005	Lambda Power Group acquired
2007	Recording Media business sold
2008	EPCOS AG acquired
2016	Micronas Semiconductor Holding AG acquired
2017	InvenSense, Inc. acquired
2018	Chirp Microsystems, Inc. acquired
2019	TDK Ventures founded

TDK Corporation
Product categories

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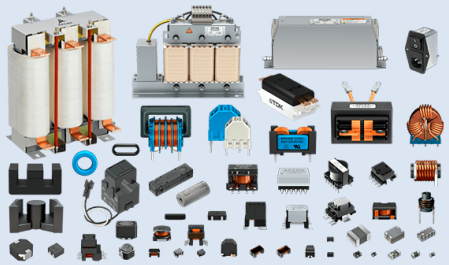
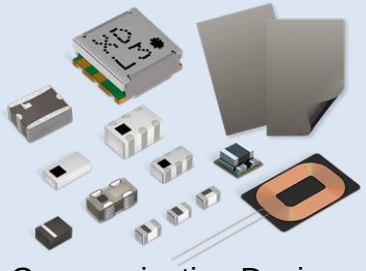
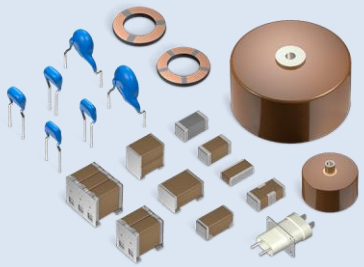
Passive Components



Magnetics

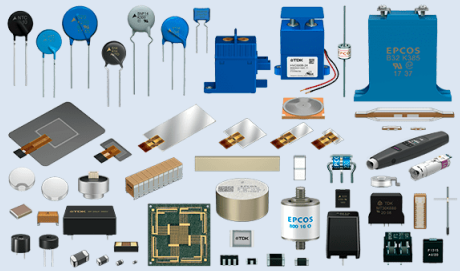


Communication Devices



Ceramic Capacitors

Aluminum and Film Capacitors



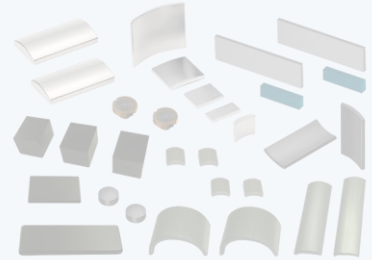
Piezo and Protection Devices

Sensor Application Products

Sensors/MEMS

Magnetic Application Products

HDD Heads & Components



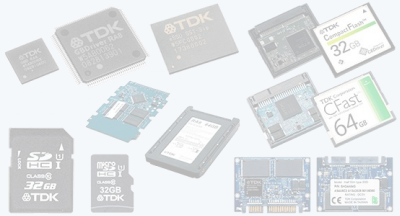
Magnet Products

Energy Application Products

Energy Devices

Power Supplies

Others



Flash Memory Applied Devices

EMC & RF Engineering

Micro-actuator Solutions & Others

We provide advanced solutions for Automotive-xEV, Fuel Efficiency, Motor Control

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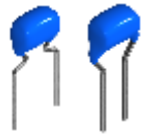
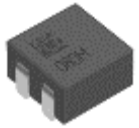
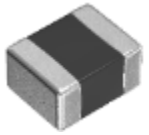
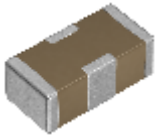
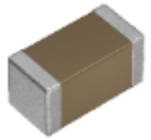
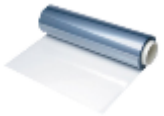
 Gate-drive transformers for motor inverters	 High-current chokes for DC-DC converters	 High-voltage contactors for DC switching
 Aluminum electrolytic capacitors for buck-boost converters	 Hybrid polymer capacitors for electrical motors control unit	 Film capacitors for DC link & EMI suppression
 Ferrite cores for wireless charging	 PTC thermistors for heating	 Ceramic ripple suppressors for motor inverters
 DC-DC converters for xEV	 On-board chargers for xEV	 Rare earth & ferrite magnets for motors and generators
 Temperature sensors for HVAC, motor, battery, ATF	 Gear tooth & position sensors for fuel efficiency	 Piezo actuators for fuel injection
 Pressure sensors for fuel efficiency	 Leaded ceramic capacitors for noise suppression	 Hall sensors & embedded controllers
 TMR angle & motion sensors	 Surge arresters for overvoltage protection	 Ring varistors for noise suppression

TDK Technology
Attractive mobility.

We provide advanced solutions for Automotive - Autonomous, Connectivity, Safety

Attracting Tomorrow

 Power inductors for SoC power management at ADAS front camera	 Wire-wound inductors for LVDS & PoC for infotainment	 Common mode chokes for CAN-BUS/1000BASE−T1
 Power inductors for noise suppression and voltage stabilization	 Multilayer power inductors for infotainment and ADAS	 Chip beads for noise reduction in power lines
 3-terminal feedthrough filters for decoupling and filtering	 MLCCs for noise suppression and voltage stabilization	 Multilayer varistors for ESD and NTC thermistors for temp. measurement
 Multilayer RF components for connectivity	 Multilayer RF inductors for connectivity	 Chip antennas for WiFi / Bluetooth connection
 Piezo actuators with haptic feedback for touchscreens	 Piezo actuators with haptic feedback for dashboards	 Ag-stacked film for window
 Coils for wireless charging according to Qi standard	 Noise suppression sheets for EMC improvement	 Transponder coils for tire pressure monitoring systems (TPMS)
 MEMS motion sensors for navigation and safety	 MEMS microphones for communication	 Anechoic chambers with 10 m test range

TDK Technology
Attractive mobility.

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TDK

CeraLink™

Ceramic capacitor optimized for conditions under operation

CeraLink™
Ideal capacitor for Wide Bandgap Semiconductors

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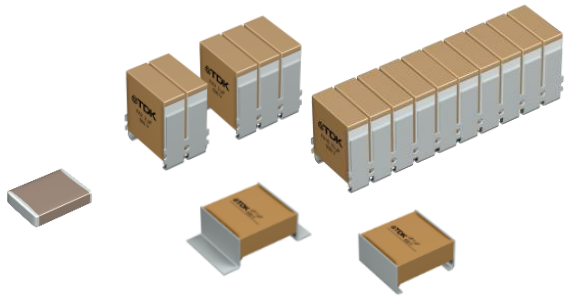
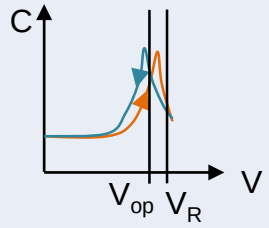
Target Application

- OBC
- DC/DC
- SiC Power Modules
- Auxiliary inverters for xEV
  (HV compressor, HV pump, HV heater)
- Wireless charging of vehicle



- Suitable for designs of **400 V / 800 V** xEV
- Increasing capacitance with DC bias and best in class capacitance density at operating point (V_{op} + T_{op})
- Supports **miniaturization** with low inductive design

Basic Facts	Unique Feature	Resulting Advantages
Qualification based on AECQ-200 Manufacturing site in EU (Deutschlandsberg, AT) Quality management system according to IATF 16949:2016 Soldering Method: Reflow RoHS Compliant	Innovative anti-ferroelectric ceramic material High cooling efficiency due to high thermal conductivity Good self-regulating properties 	High capacitance density High current capability Low ESL (typ. 3 nH) Low losses at high frequencies and high temperatures (up to +150 °C) No limitation in dV/dt **→ Ideal as snubber or filter cap for SiC and GaN applications**

CeraLink™
CeraLink LP versus class 2 MLCC

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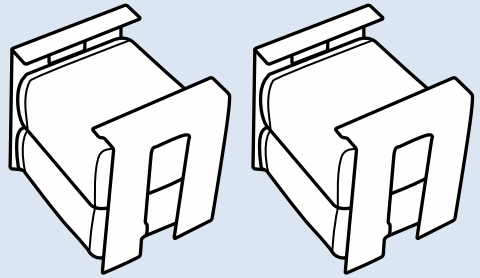
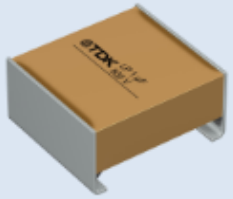
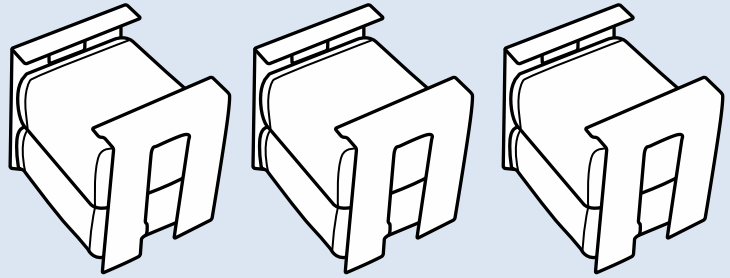
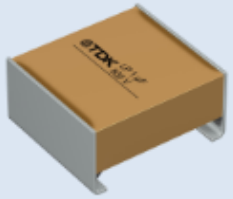
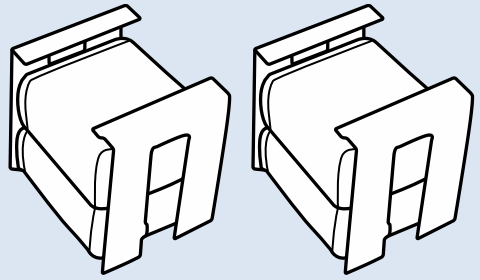
Capacitance @ 400 V + 20 V ripple		Similar like	
Ripple current @ 100 kHz & 85 °C		Similar like	
Added value of CeraLink LP series		• Less PCB space • Higher temperature • Low ESL	

Stacked MLCC based on case size 2220

CeraLink™
Product range

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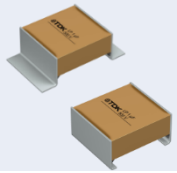
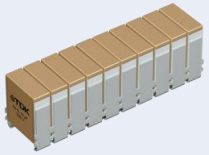
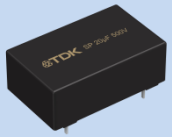
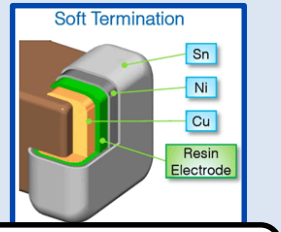
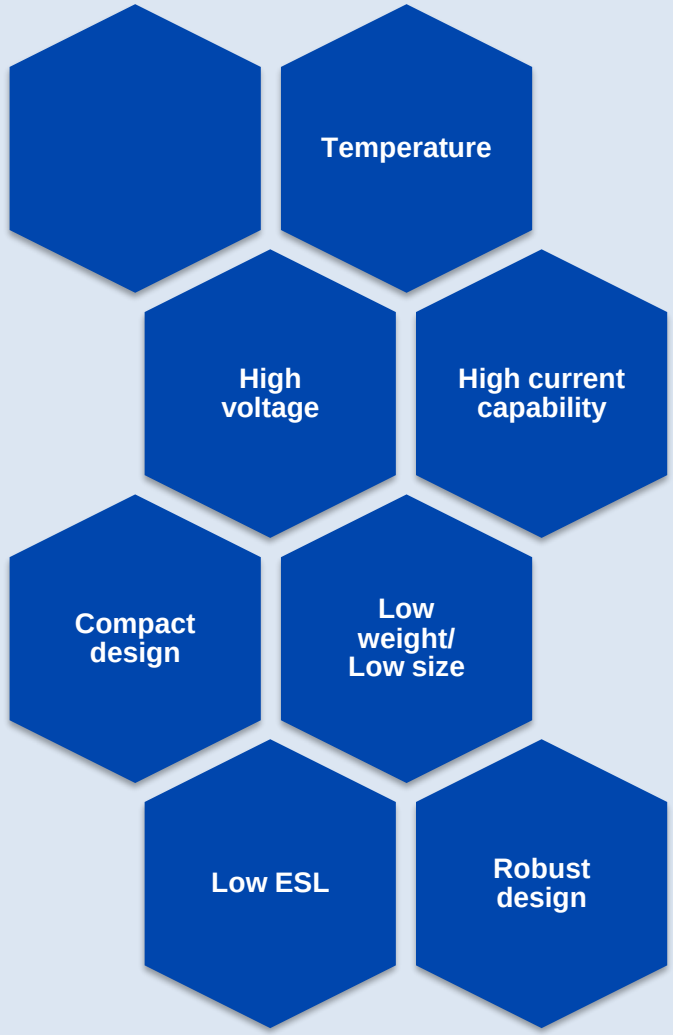
Series	Rated voltage		
	500 V	700 V	900 V
Low profile **LP (L /J leads)** 	**1 µF**	**0.5 µF**	**0.25 µF**
Flex assembly **FA2/FA3** 	**2/3 µF**	**1/1.5 µF**	**0.5/0.75 µF**
Flex assembly **FA10** 	**10 µF**	**5 µF**	**2.5 µF**
Solder pin **SP** 	**20 µF**	**10 µF**	**5 µF**
SMD **SMD 2220 – New** 	**0.25 µF**		



Soft Electrode samples avail.



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CAP Film DC

DC FILM Automotive Capacitors

Film Capacitors for DC applications
Selection guide → PCB & terminal mounted film

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	Size			Temperature	I_{RMS}/Pulse handling capability		THB	
DC link	**B3277*D/G** THB: 40 °C/93%/56 days Size: Small Temp.: 110 °C **Compact size**	**B3277*X/Y/Z** THB: 40 °C/93%/56 days Size: Small Temp.: 110 °C **Higher energy density, compact size**	**B3271*H** NEW THB: 60°C/95% RH/V_{RDC} 1000 h Size: Small Temp.: 105 °C **Higher energy density, compact size**	**B3277*P** THB: 60°C/95% RH/V_{RDC} 500 h Size: Medium Temp.: 125 °C **Higher temperature**	**B3267*** THB: 40 °C /93%/56 days Size: Large Temp.: 105 °C **Higher power, I_{RMS} capability**		**B3277*M** NEW THB: 85 °C/85% RH/ V_{RDC} 1000 h Size: Medium Temp.: 110 °C **High humidity protection**	**B3277*H/J** THB: 85 °C/85% RH/ V_{RDC} 500 h Size: Medium Temp.: 110 °C **Humidity protection**
Snubber	**B3265*** THB: 40 °C/93%/V_{RDC} 1000 h Size: Small Temp.: 110 °C **Compact size, high I_{RMS}**	**B3268* (MFP)** THB: 40 °C/93%/56 days Size: Large Temp.: 110 °C **High dv/dt**		**B3267*L** THB: 40 °C/93%/V_{RDC} 1000 h Size: Small Temp.: 125 °C **Higher temperature**	**B3265*S** THB: 85°C/85%RH/V_{RDC} 500 h Size: Medium Temp.: 110 °C **IGBT mounted**	**B3268*S (MFP)** THB: Size: Large Temp.: 110°C **IGBT mounted, high dv/dt**		
PFC		**B3267*P** THB: 40 °C/93%/V_{RDC} 1000 h Size: Small Temp.: 125 °C **Compact size, high temperature**		**B3267*Z** THB: 40 °C/93%/V_{RDC} 1000 h Size: Medium Temp.: 125 °C **High temperature**				
Resonant	**B3265*** THB: 40°C/93%/V_{RDC} 1000 h Size: Small Temp.: 110 °C **Compact size, high I_{RMS}**	**B3267*L** THB: 40°C/93%/V_{RDC} 1000 h Size: Small Temp.: 125 °C **Higher temperature**		**B3264*B (MMKP)** NEW THB: Size: Temp.: 125 °C **Higher temperature, high I_{RMS}, high dv/dt**	**B3265*** THB: 40 °C/93%/V_{RDC} 1000 h Size: Small Temp.: 110 °C **Compact size, high I_{RMS}**			
General purpose	**B3262*** THB: Size: Small Temp.: 110 °C **Compact size**	**B3252*** THB: Size: Small Temp.: 125 °C **Compact size, high temperature**						

Film capacitors for **EMI/EMC applications**
Selection guide → PCB & terminal mounted

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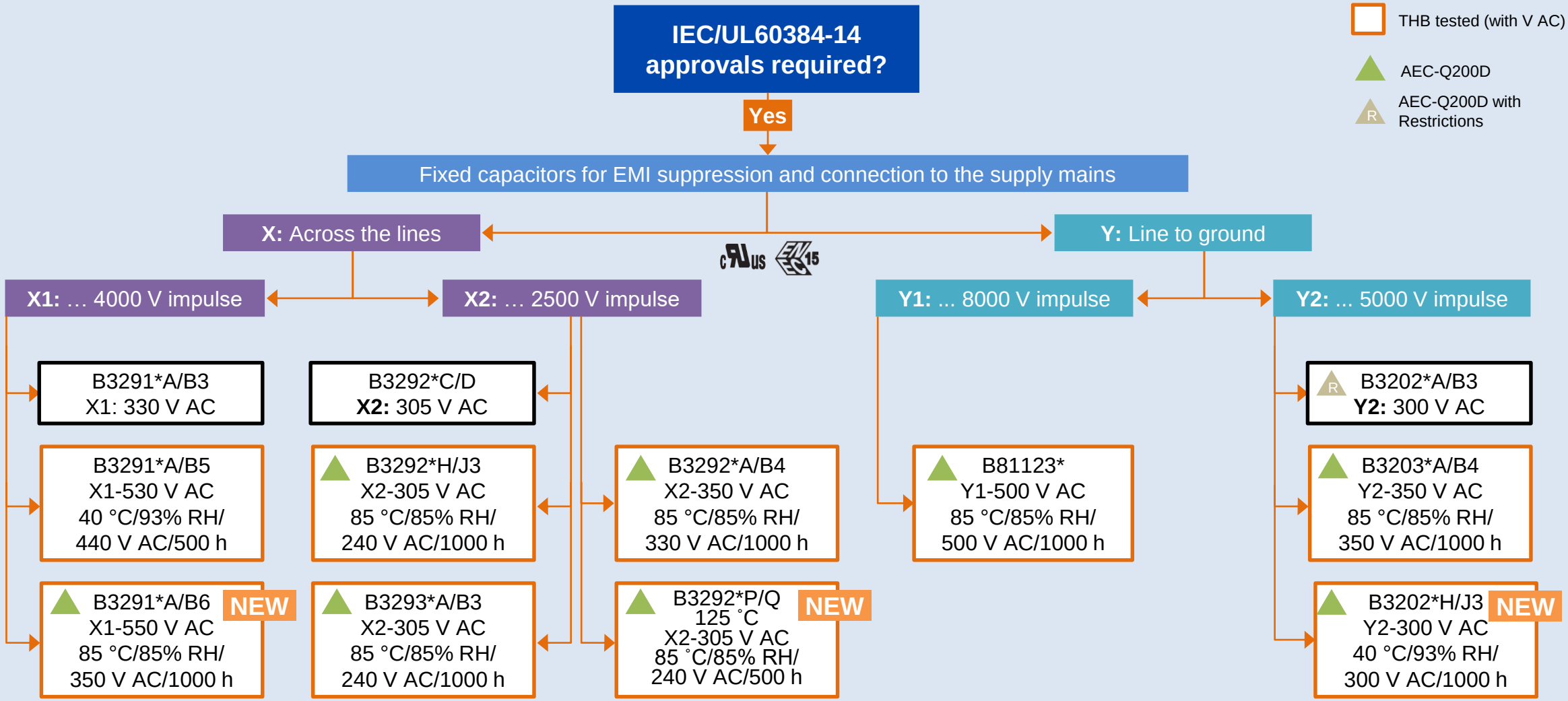
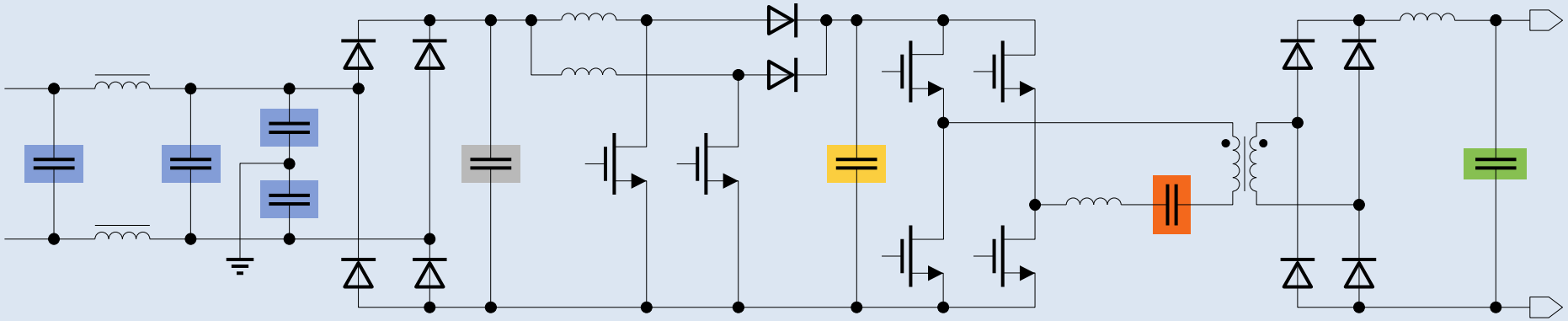
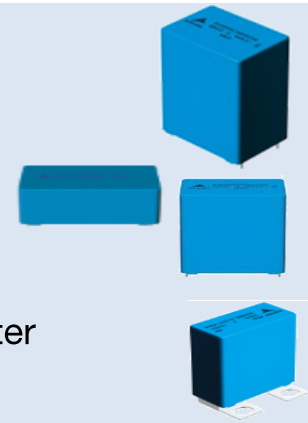


Film Capacitors
Plug-in battery chargers / OBC – unidirectional



X/Y
PFC
DC link
Resonant
Output filter



EMI/EMC stage

X2 humidity
B3292*H/J
60/95/240 V AC/1000 h

X2 temperature **NEW**
B3292*P/Q
Max. T_{op} cont. +125 °C

Y2 grade IIIB
B3203*A/B
85/85/350 V AC/1000 h

X1 high-voltage
B3291*A/B6
1000 V DC/550 V AC

PFC stage

PFC temperature
B3267*Z
B3267*P
Max. T_{op} cont. +125 °C

DC-Link grade

B3277*M
85/85/V_R DC/1000 h

High-temperature
B3277*P
Max. T_{op} cont. +125 °C

High A_{RMS} at µF ratio **NEW**
B3271#H

Humidity grade
B3277*H
60/95/V_R DC/1000 h

LLC stage

MMKP **NEW**
B3264*B
Max. T_{op} cont. +125 °C
60/95/V_R DC/1000 h

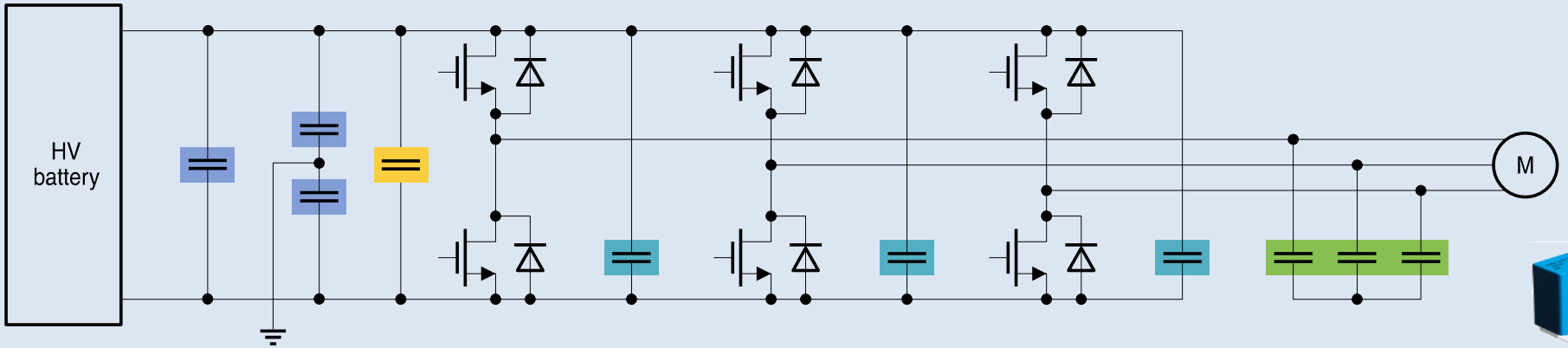
High pulse
B3265*A/JT/G
8000 V/µs

Small size
B3262*A/J

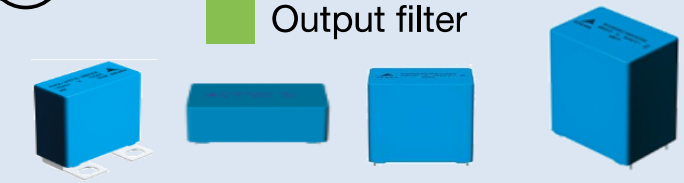
Output stage

MKT
B3252
Max. T_{op} cont. +125 °C
800 V/µs

Film Capacitors
Boost converters & inverters/auxiliary inverters



X/Y
DC link
Snubber
Output filter



EMI/EMC stage

X2 humidity
B3292*H/J
60/95/240 V AC/1000 h

X2 temperature **NEW**
B3292*P/Q
Max. T_{op} cont. +125 °C

Y2 grade IIIB
B3203*A/B
85/85/350 V AC/1000 h

X1 high-voltage
B3291*A/B6
1000 V DC / 550 V AC

DC-Link grade

B3277*M
85/85/V_R DC/1000 h

High-temperature
B3277*P
Max. T_{op} cont. +125 °C

High A_{RMS} at µF ratio **NEW**
B3271#H

Humidity grade
B3277*H
60/95/V_R DC/1000 h

Snubber

High I_{RMS} performance
B3265*S
Direct IGBT mounting

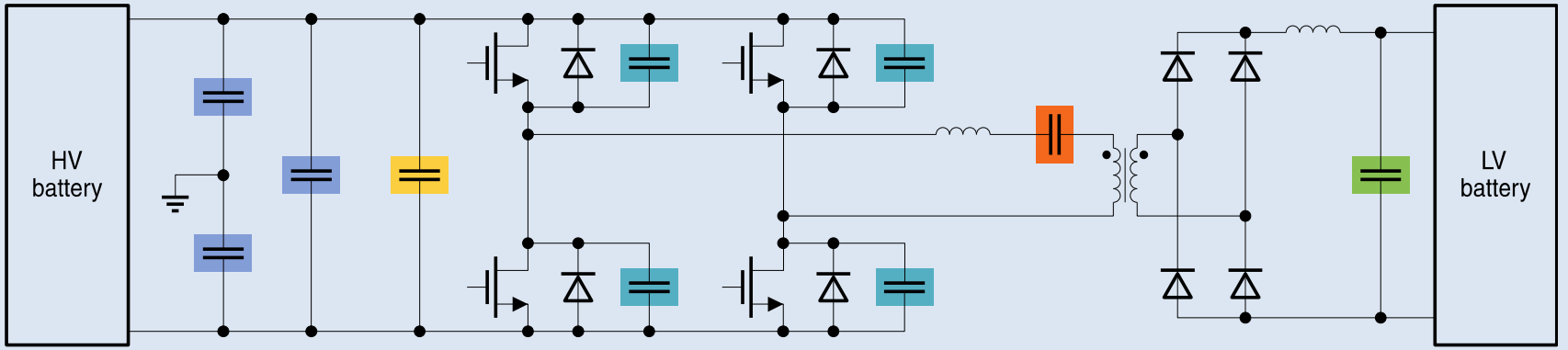
High pulse
B3265*A/JT/G
8000 V/µs

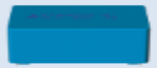
MMKP **NEW**
B3264*B
Max. T_{op} cont. +125 °C
60/95/V_R DC/1000 h

AC filter

MKP
B3275
60/95/V_R AC/1000 h

Film Capacitors
DC/DC converters





HV filter
DC link
Snubber
Resonant
LV output filter

EMI stage/HV filter

X2 humidity
B3292*H/J
60/95/240 V AC/1000 h

X2 temperature **NEW**
B3292*P/Q
Max. T_{op} cont. +125 °C

Y2 grade IIIB
B3203*A/B
85/85/350 V AC/1000 h

X1 high-voltage
B3291*A/B6
1000 V DC / 550 V AC

DC-Link grade

B3277*M
85/85/V_R DC/1000 h

High-temperature
B3277*P
Max. T_{op} cont. +125 °C

High A_{RMS} at µF ratio **NEW**
B3271#H

Humidity grade
B3277*H
60/95/V_R DC/1000 h

Snubber

High I_{RMS} performance
B3265*S
Direct IGBT mounting

High pulse
B3265*A/JT/G
8000 V/µs

MMKP
B3264*B **NEW**
Max. T_{op} cont. +125 °C
60/95/ V_R DC/1000 h

LLC stage

MMMP
B3264*B **NEW**
Max. T_{op} cont. +125 °C
60/95/V_R DC/1000 h

High pulse
B3265*A/JT/G
8000 V/µs

Small size
B3262*A/J

Output stage

MKT
B3252
Max. T_{op} cont. +125 °C
800 V/µs

Attracting Tomorrow

TDK

Aluminum electrolytic and **hybrid polymer capacitors**

Aluminum electrolytic and **hybrid polymer capacitors: 48 V DC link inverter application**

Attracting Tomorrow

The right solution from low- to high-power classes

5 kW — 15 kW — 30 kW

Typical requirements
- High ripple current
- Long useful life
- High temperature
- Forced cooling option
- High vibration
- Size restriction

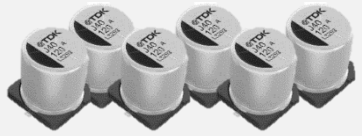
SMD hybrid polymer
- High ripple current density
- Low ESR drift
- Vibration stability of **40 *g*** and **cooling though PCB on request**

Axial electrolytic
- High ripple current capability
- Low number of parts

Axial hybrid polymer
- Highest ripple current capability
- Low ESR drift
- Lowest number of parts

Features
- Operating temperature of 150 °C
- Low thermal resistance over lifetime
- Vibration stability of up to **60 *g***

Technology comparison ➔ No. of parts based on ripple current load (e.g. 25 kW with average 5 x axial HP 16 x 30 mm)

	Axial hybrid polymer B40640/B40740	Axial electrolytic B41687/B41787	SMD hybrid polymer B40940
Upgraded +30%	**From 26.9 to 35 A** $I_{AC,MAX,TC}$/20 kHz/ 125 °C/4000 h		
	1 	4 	6 
Axial SMD A samples available 	720 µF/63 V/16 x 30 mm **PCB area** 240 mm² **Volume** 7933 mm³	470 µF/63 V/18 x 25 mm **PCB area** 1017 mm² **Volume** 25,434 mm³	120 µF/63 V/10 x 12.5 mm **PCB area** 661 mm² **Volume** 8467 mm³

Large size aluminum capacitors
OBC application

Attracting Tomorrow TDK

Key product feature / advantage

- ✓ 500 V and 5000 h designs available
- ✓ High vibration stability up to 40 *g* available upon request
- ✓ AlCap: Useful Life Calculation Tool

Link: https://www.tdk-electronics.tdk.com/en/180482/design-support/design-tools/alcap-useful-life-calculation-tool

B43652 series – bottom vented- vs. side-vented
e.g.: 820 µF - 450 V - 35 x 55 mm

$I_{AC,max}$ = 6.11 A
100 Hz/85 °C

Capacitor mounted to a heat sink with fixed temperature

$I_{AC,max}$ = 11.28 A
100 Hz/85 °C

85% more ripple current

Roadmap

B43268
400… 500 V
105 °C/3000 h

Extended life

B43654
450 V
105 °C/5000h

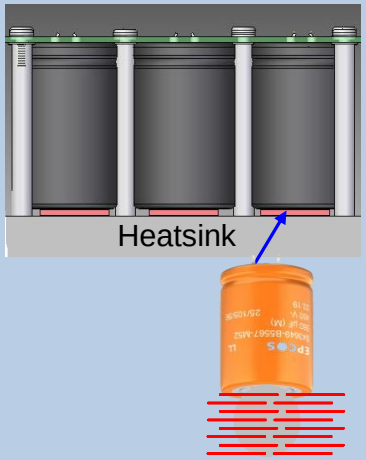
Reduced size

B43649
450 V
105 °C/3000 h

Side Vent
(Base cooling)

B43652
450 V
105 °C / 3000 h
NEW

Series data sheet available in July, 2021



Base cooling with efficient heat dissipation for the capacitor bank will reduce the number of capacitors and significantly increase the useful life

Attracting Tomorrow

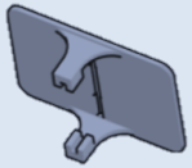
TDK

High-voltage Contactor

High-voltage Contactor Portfolio

Attracting Tomorrow

H 92.5 mm
D 44.0 mm
W 89.0 mm
~ 500 g



Accessory

HVC2.5 series

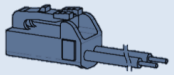
HVC200, HVC300, HVC500

DC Fast Charging Stations (up to 400 kW)

Medium/Large passenger cars, sports-cars, SUV, trucks, busses

- Up to 500 ADC and 1200 VDC
- Contactless Auxiliary Contact
- Single-Coil or Dual-Coil
- Bipolar Design available

H 75.5 mm
D 40.4 mm
W 78.0 mm
~ 300 g



Accessory

HVC4.3 series

HVC43-150A, -200A, -250A

DC Chargers up to 50 kW

Small and compact passenger BEV and PHEV

- Up to 250ADC and 1000 VDC
- Bipolar Design
- 30% smaller, 30% lighter than HVC2.5
- 7 kA short circuit current

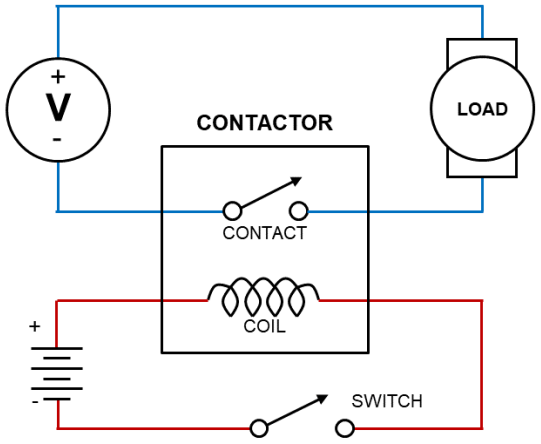
High-voltage Contactor Principle

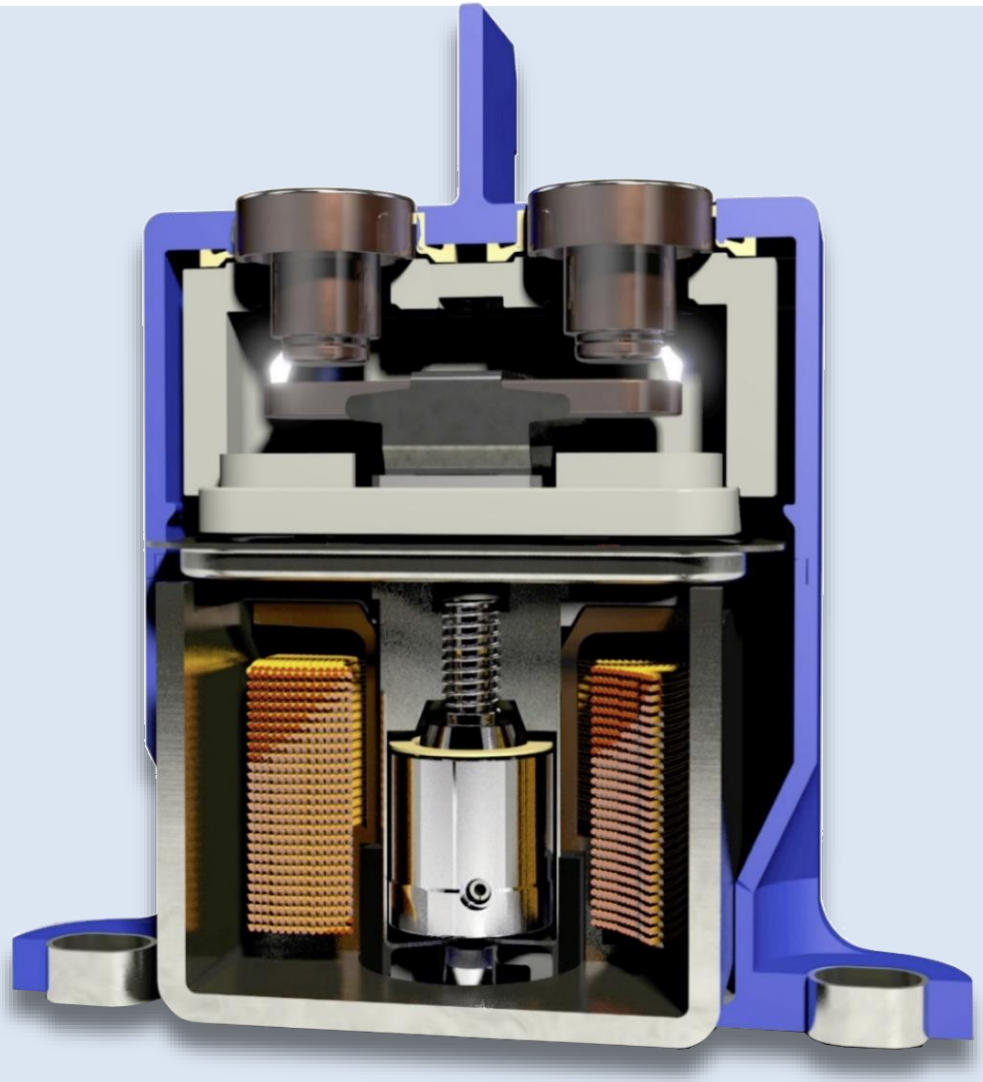
- Coil voltage is off → HVC is open → Main contacts disconnect high voltage
- Coil voltage is on → HVC is closed → Main contacts connect high voltage

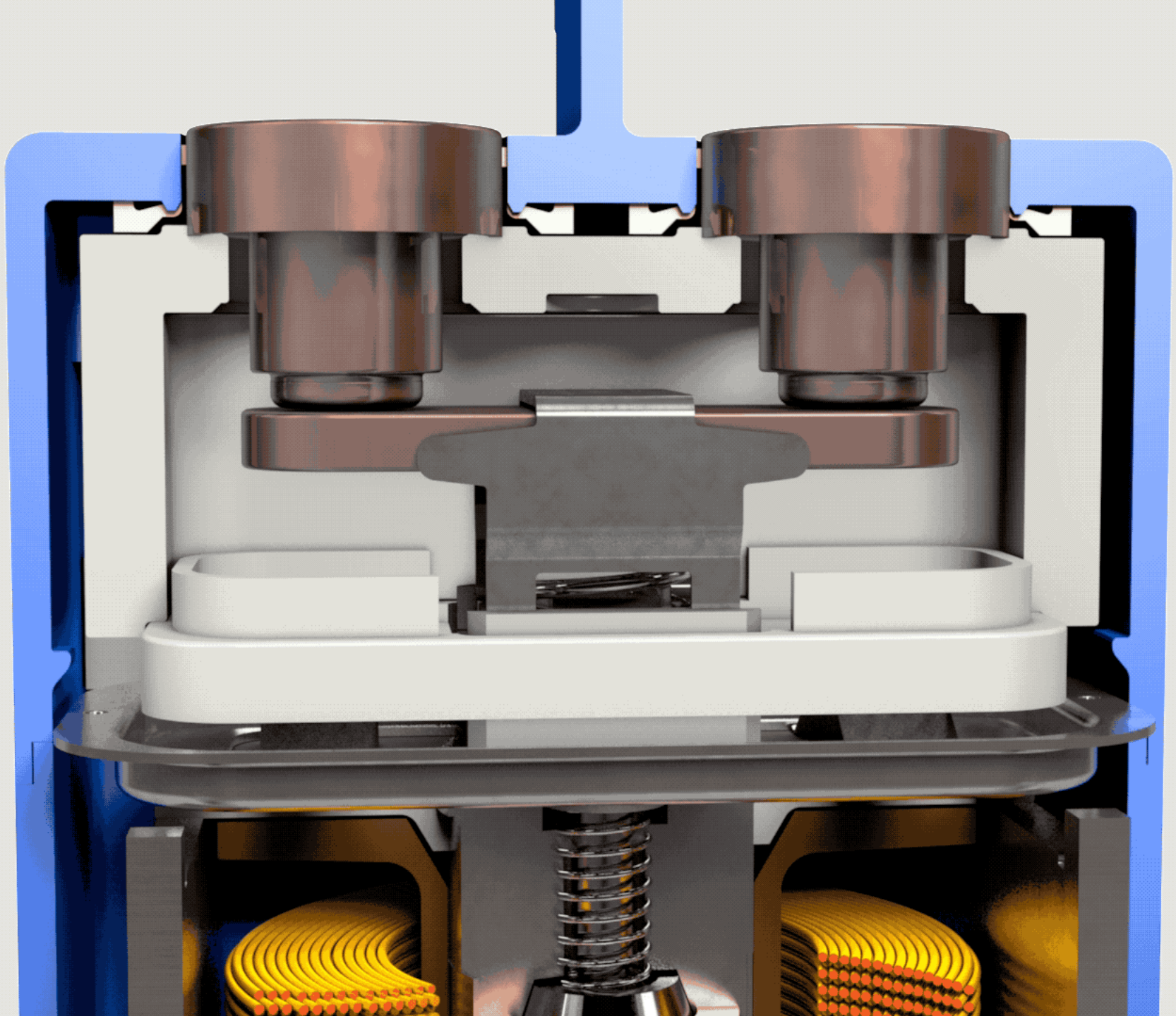
The high-voltage arc is created when the contact bridge opens

- Magnets on the side divert the arc to run along the edges
- A hydrogen gas mixture cools and extinguishes the arc

Example Circuit







Attracting Tomorrow

CarXield™

The first EMI filter to set standards

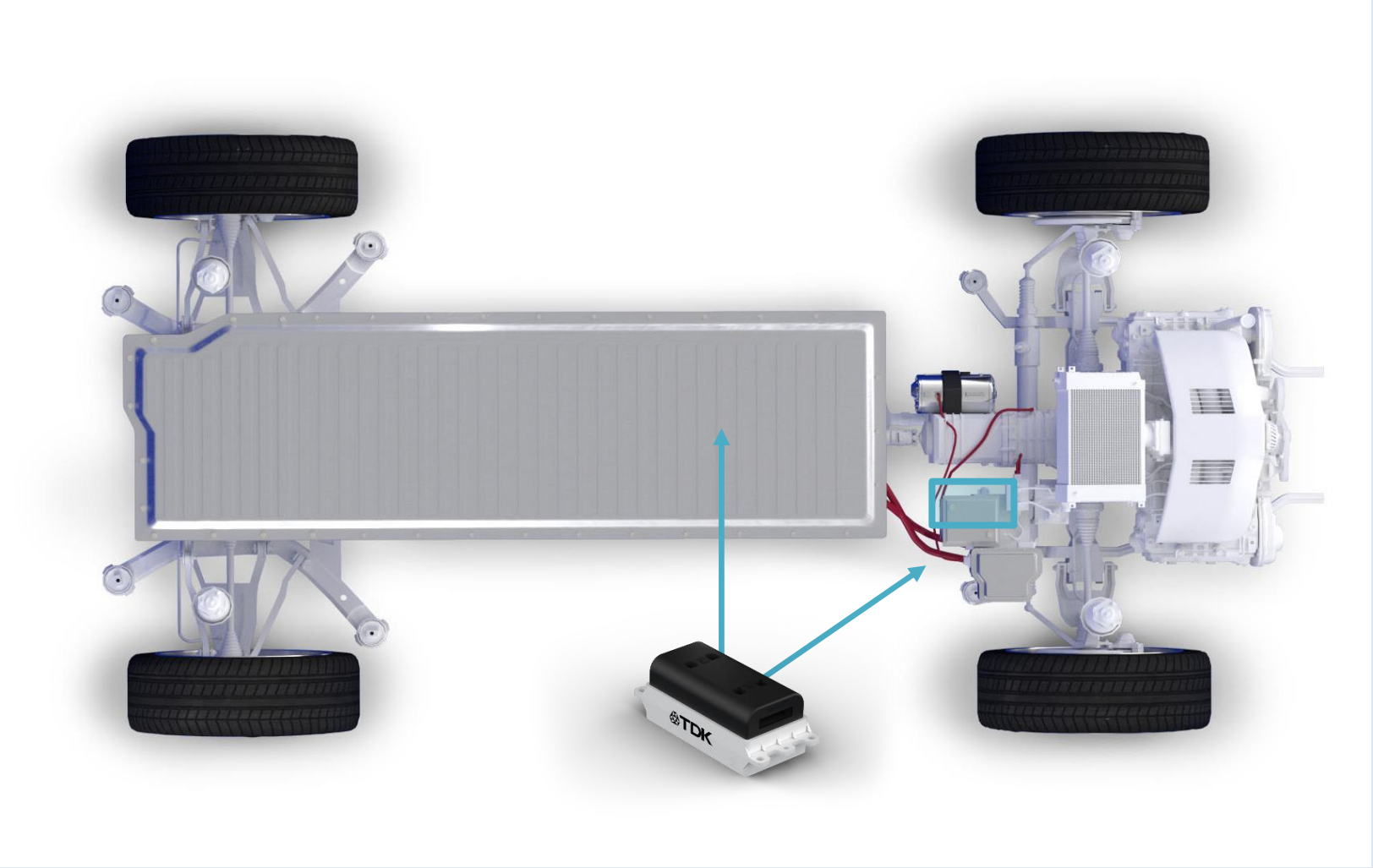
CarXield™
Need for an EMI filter in xEV

Attracting Tomorrow

High frequency switching noise from inverters is a potential source of RF emissions

Inverter noise on battery lines is also a major concern both for immunity and emissions

- Inverter is producing electromagnetic interferences
- EMI filter shall reduce the interferences between inverter and battery



CarXield™
Innovative standard solution: CarXield™ P302237*

Attracting Tomorrow

HV DC EMI filter for automotive drive inverters

- 900 V DC and 500 V DC with 200-400 A @ 85 °C
- Product validation according to automotive requirements
- Advantages
  - Quickly available
  - Price-competitive due to standard processes
  - Also available without copper bars

*: preliminary part number

Status

- Datasheet and samples available
- SOP planned for Q1/2022

F/G typ

D/E/M typ

CarXield™
Technical characteristics (1)

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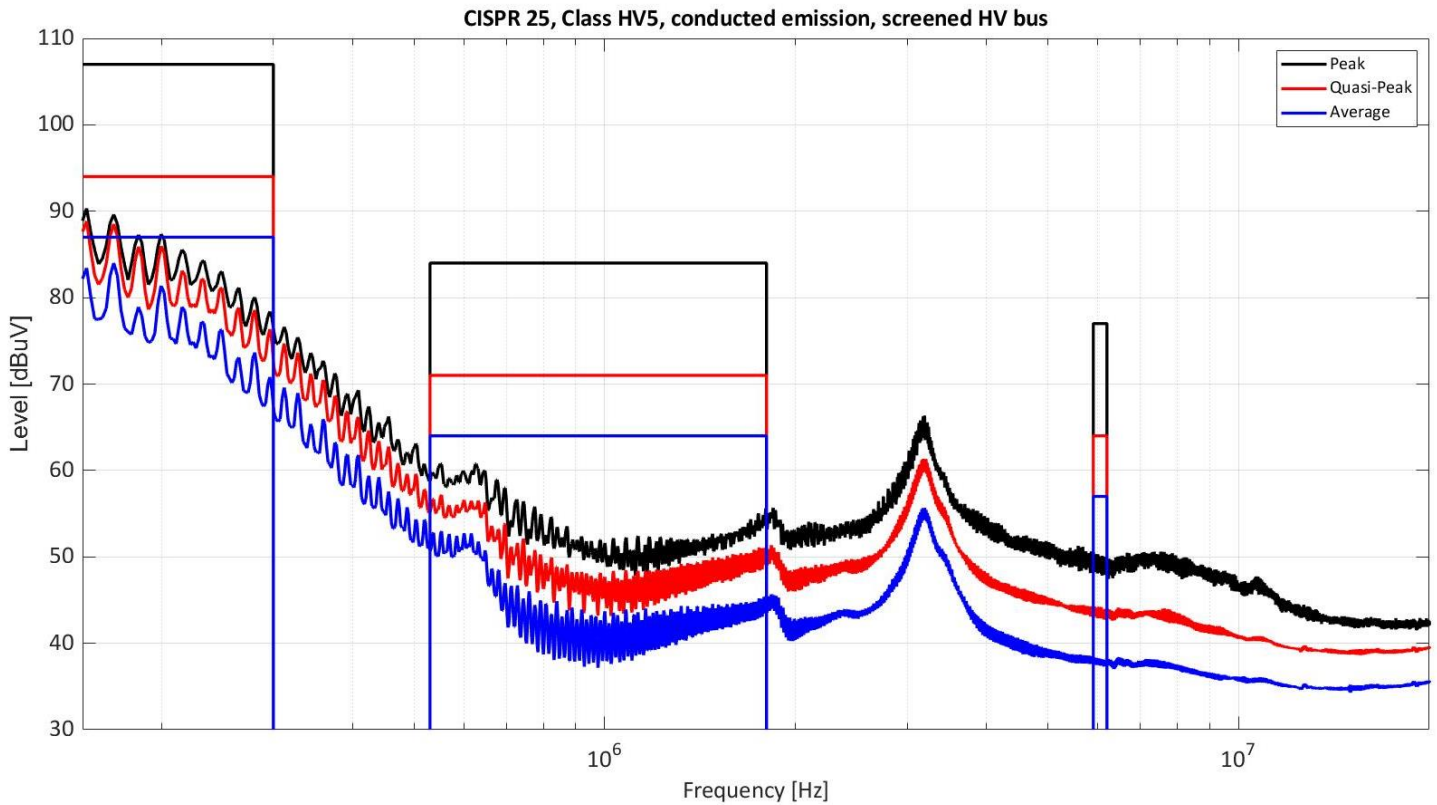
Performance

Measured acc. CISPR 25 HV class 4



- Insertion loss
  150 kHz 30 dB CM, 40 dB DM 500 kHz …
- Example HV + conducted emission

CarXield™
Technical characteristics (2)

Attracting Tomorrow

Energy potential & Capacitor to GND

		500 V	900 V
Energy potential*	$E_{(L\text{-}GND)}$	≤0.05 J	≤0.035 J
Y capacitance per line to GND	$C_{Y\ (L\text{-}GND)}$	≤360 nF	≤90 nF

* The potential calculation based on the r voltage as specified above.
It is for one potential (one line) to GND. The energy potential is calculated using following formula: $\mathbf{E = ½ \times C_{L\text{-}GND} \times U_R^2}$ (result ≤ specified value above).

Busbar packages

- Possibility to provide EMI filter without busbars

Variant without busbars (using customer's bus bar system)

or

Variant with busbars

CarXield™
as standard EMI filter

Attracting Tomorrow TDK

Customer advantages

Cost-saving
Reduced development time for the customer
Product validation already done
No custom specific production line investment

Reliability
Basic product design already running in production, production process approved

Flexibility
The product is available with or without copper bars
➔ Customer can use already existing own bus bars

Availability
Samples available, Serial production as of Q1/2022

P302237*

*: Preliminary P/N

CarXield™
Possible integration of the CarXield filter

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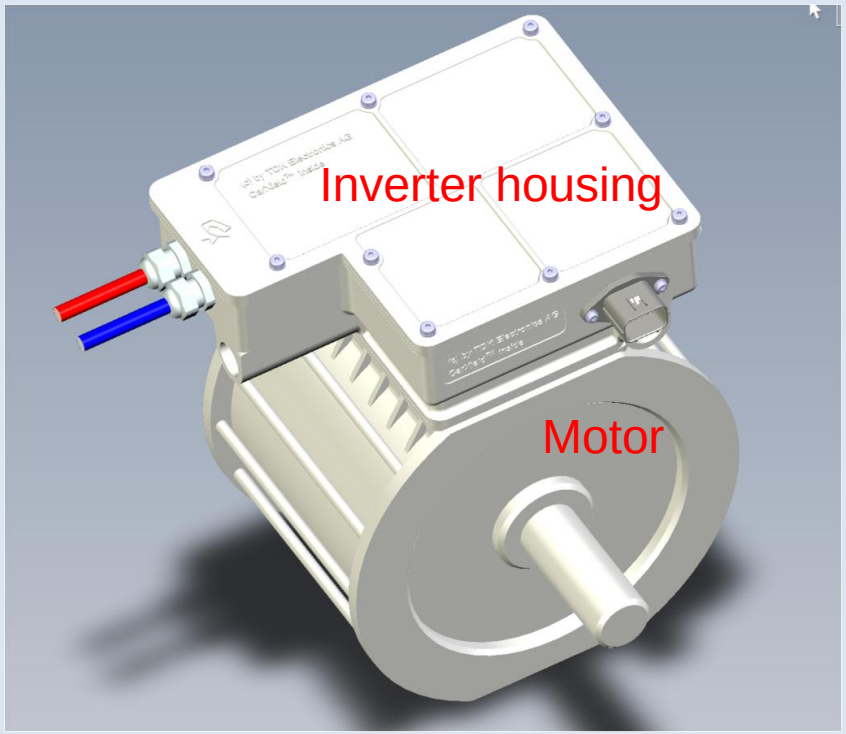
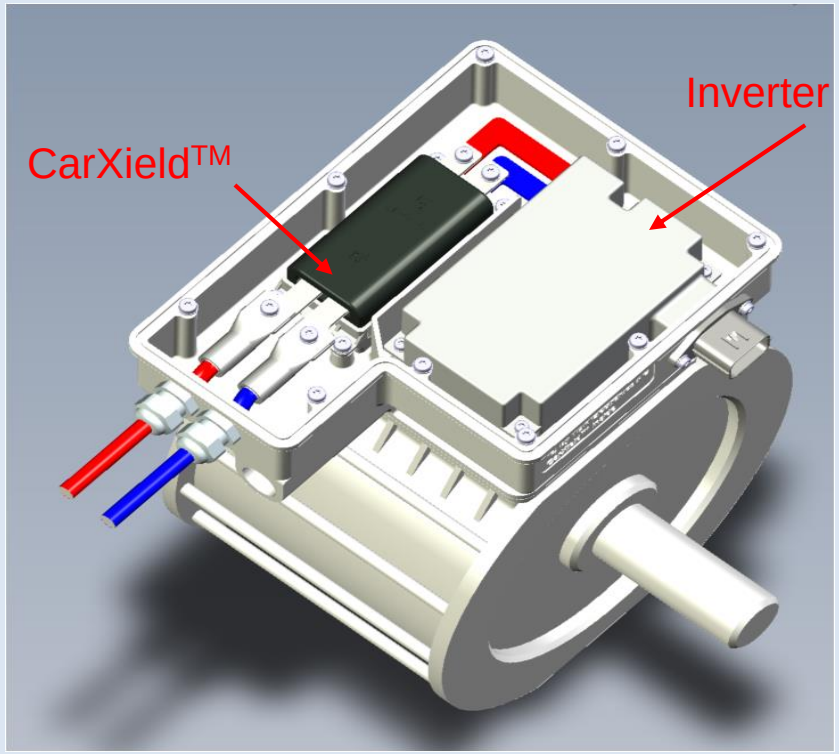
Example: Inverter mounted on E-Motor





Advantages of CarXield:

- Customer connection via cables with easy feedtrough connectors or plug
- Possibility to use customer bus bar system

Attracting Tomorrow

TDK

Power Transformers
& **chokes** for **e-Mobility**

Key Products for Application xEV
E-mobility (EM) **Platform**

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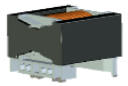
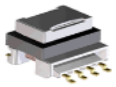
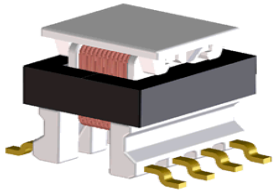
Series		Features	Status	Comment	Full Hybrid DC/DC	Full Hybrid Inverter	OBC	48Volt DC/DC
PTEM		3kW DC/DC Transformer Input 170-450Vdc , output 12-16Vdc Optimized cooling possibility	standardtypes available	"Big" Tier1s changed to version with winding into PCB Focus on me too customers	✓			
PCEM		Planar coils ERU51/58/62 Inductance 1,4-2,8µH , Isat 140-290A	standardtypes available	customised versions possible	✓		✓	
PQ size		Transformer , Output/Resonant chokes typ. 11kW/3phases/LLC or Phaseshift	New platform under development reduced losses , higher performance reduced costs	actually a lot of movement competitiveness must be improved			✓	
ATEM		Auxiliary transformer Creepage and clearance acc. IEC for 500V and 1000V battery voltage	two design platforms available customised designs high flexibility	high competitiveness	✓	✓	✓	✓
Current Sense Transformer		Turn ratios 1:50 up to 1:180 Sense current up to 30A Creepage and clearance acc. IEC	standardtypes available	high competitiveness	✓	✓	✓	✓
BCEM		Two sizes ERU27 and ERU33 Inductance 3,2-15µH , Isat 22-90A	standardtypes available	Extension towards low cost and other core materials necessary				✓

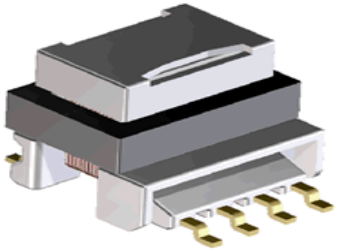
EM Platform
ATEM series

Attracting Tomorrow TDK

Features

- 500V working (battery) voltage : E10 / E13 / E16 / E20 / E25 EM
- 1000V working (battery) voltage : E13 / E18 / E23 / E25 / E33 EM**HV**
- SMD
- Frequency typ. 150kHz
- Multiple Output possible
- Operating Temperature: -40°C to +150°C
- Creepage and clearance distances according IEC 60664 and IEC 61558 (basic isolation ; PU2 ; CTI3) Creepage : 5mm (500V), 10mm (1000V)
- EM**HV** design with reduced height (max. 12mm)





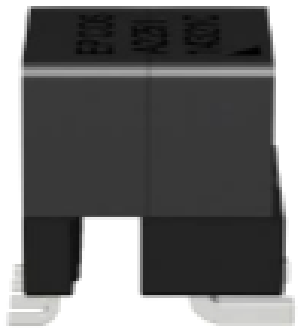
Status

- 500V versions: Series; AEC-Q200 existing
- 1000V versions: Series; AEC-Q200 existing

EM Platform
Current Sense Transformer HV 1000VDC

Attracting Tomorrow TDK

NEW



Features

- EP9 / EP11 design
- SMD L Pin
- Primary winding frame molded in, secondary winding wire wound
- UL1446 class 155(F) electrical insulation system
- Turn ratios 1:50 up to 1:180
- Sense current (Iprim rms) up to 30A
- Operating Temperature : -40°C … +150°C
- Frequency typ. 100kHz
- EP11 design : Np / Ns (CuL) creepage ≥ 6 mm, clearance ≥3.9 mm / Np / Core creepage ≥ 6 mm, clearance ≥ 4.9 mm and Basic Insulation Np / (Ns, core) U op 1000 V DC, P2, OVC II (for 230 V AC net), V peak 3000 V, altitude <5 km

Advantage

- Existing product range
- Current Sense Transformer AEC-Q200 planed
- Plastic material UL94V-0, CTI ≥600 (class 1)

Status

- In final development status

EM Platform
OBC Application

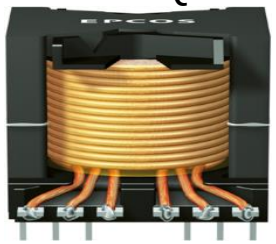
Attracting Tomorrow TDK

Typical Application

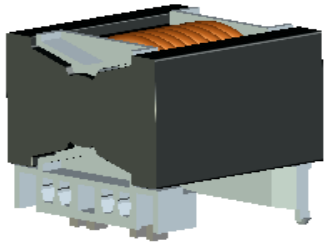
- 11kW / 3 phase / LLC or Phaseshift Fullbridge
- 3.5kW designs for Transformer , Outputchoke , Resonantchoke
- Operating Temperature -40°C to +150°C
- Frequency typ. 100kHz
- Creepage and clearance distances according IEC 60664 and IEC 61558 (Uop 500V ; PU2 ; CTI3)

Design Roadmap

- Actual platform PQ cores with “classical” wires soldered to pins
- Series: AEC-Q200 existing



- **NEW** platform with direct connected wire terminals (“hot crimping”)
- Reduced process time
- Low contact resistance
- Reduced losses
- Higher performance
- No solderballs



EM Platform
BCEM series (3)

Attracting Tomorrow TDK

ERU27SMD

NEW EE Core Shape

Databook types:

Characteristics and ordering codes

L_R µH	$I_{sat\ 25°C}$ A	$I_{sat\ 100°C}$ A	I_{rated} A	R_{DC} (nom) mΩ	Height h (nom) mm	Approx. weight g	Ordering code
1	101.5	87.0	52.0	0.46	11.9	27.1	B82559B2102A027
1.5	67.0	59.5	52.5	0.46	11.9	27.4	B82559B2152A027
2.2	68.0	58.5	46.5	0.68	13.5	31.5	B82559B3222A027
3.3	60.3	51.3	42.5	0.88	14.9	35.4	B82559B4332A027
4.7	53.5	45.5	37.0	1.39	14.6	35.3	B82559B5472A027
6.8	44.0	37.2	34.5	1.66	15.8	38.2	B82559B6682A027
10	34.8	29.7	33.0	1.92	16.9	41.7	B82559B7103A027
15	22.9	19.4	33.0	1.92	16.9	42.0	B82559B7153A027

typical values at 25°C

$I_{sat,\ 25°C}$ is the current that will result in an approximately 20% drop of the initial inductance at T_a=25°C

Construction:

- Size: 27.8mm x 25.8mm
- Height max: 11.9mm – 16.9mm
- Operating temp: -40 … +150°C

MERCI THANK YOU

www.tdk.com