

Overview

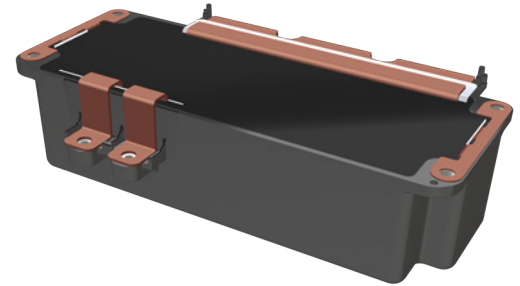
C4K-HVP is a High Voltage DC-Link Powertrain capacitor, constructed of metallized polypropylene film encapsulated with solid epoxy resin.

Applications

C4K series, MKP Film capacitor, DC Link for powertrain E-axle.

Benefits

- Approvals: ZVEI
- Rated Voltage: Typical 800 – 1000 V
- Capacitance range (beg. of life, ambient temp): Typical 100 – 1500 μ F
- Capacitance tolerance: Typical \pm 5%



This concept is for illustration purposes only and final design will depend on customer inputs and agreement with KEMET R&D.

Performance Characteristics

Dielectric	Metalized Polypropylene film
Filling	Filled with solid epoxy resin
Case construction	Typically: - Reinforced polymer injection molded (typically PPS 40% GF, PBT 30% GF) UL94 – V0 rated. - Aluminum grade die casted (typically EN AC-43400, EN-AC 44300 or similar).
Insulation foil	PET
Busbars/Terminations	Typically: - Naked copper - Nickel flash + tin plated copper - Nickel plated copper
Rated Voltage	800-1000 V
U _{max} (max. operating voltage)	1000 V
Surge voltage	max. 1100 V (fault condition, max. duration 30s)
Max. peak (dv/dt)	Typically 20-30V/μs
Repetitive peak current (dv/dt)	Typically 5-10V/μs
ESR @10kHz (initial)	Typically <0.5 mΩ (depending on design)
ESL @1MHz	Achievable 2 nH (depending of design)
Capacitance range (beg. of life, ambient temp)	Typical 100 – 1500 uF
Capacitance tolerance	Typical ±5%

Thermal characteristics and storage

Operating temperature range	Typical -40°C to +105 °C
Peak hot-spot temperature	max. 115 °C
Storage temperature range	Typical -40 °C to +85 °C
Storage	Duration from the date marked on the label package – 6 months

Life expectancy

L _{driving}	Typically 8000h (depending on vehicle type)
L _{charging}	Typically 22000h

Personalization features

Customer Part number	Custom P/N
Customer specification	Requirement spec. + Mech. Drawing + Others
Customer test specification	Test specification
Dimensions	Based on customer spec (in mm)
Weight	Based on customer spec (in kg)

Approvals

Reference standard: ZVEI 3.0 (IEC TS 633337:2024)

General disclaimer

All product specifications, statements, information, and data given herein are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on our knowledge of typical operating conditions for such applications but are not intended to constitute – and we specifically disclaim – any warranty concerning suitability for a specific customer application or use. This Information is intended for use only by customers who have the required experience and capability to determine the correct products for their application.

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