2026

AIC EUROPE

Sales & technical support of AIC capacitors

Excellence
in Capacitors

English

Excellence
in Capacitors

AICtech

AIC EUROPE

As a continuation of the 70-year success story written under the Hitachi Group with the brand **HITACHI AIC**, the same players in Japan keep up their passion and quality standards for high-end capacitors under the manufacturer name **AIC tech Inc.**

With a continued spirit of innovation, **AIC tech** remains committed to stay at the forefront of the development and manufacturing of aluminum electrolytic and metallized film capacitors. This is based on the fact that **AIC tech** still holds the key technologiy for the aluminum anode foil in its own hands.

In addition to all the excellent product features, this significant advantage combined with **the Japanese mentality and their zero tolerance** for defects is reflected in the longevity and absolute reliability of AIC capacitors.

The annualy measured field failure rate of less than 0.5 FIT is a proof of this success.

We gratefully look back on over 30 years of general agency for the manufacturer, which is known on the market for one of the lowest field failure rate for many years.

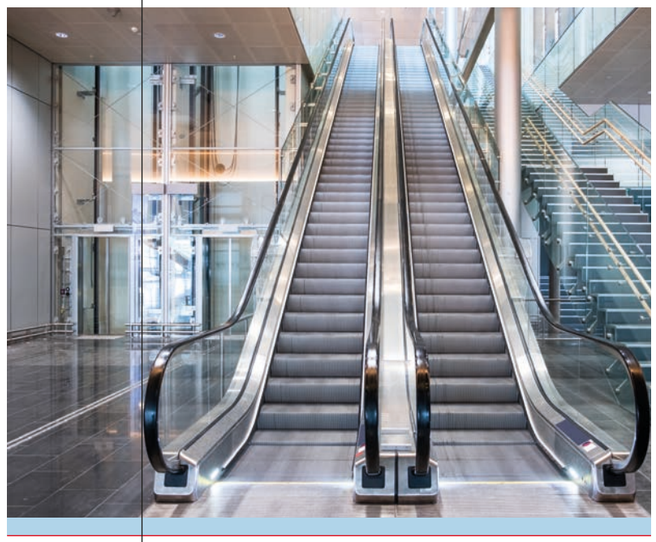
Our decades of experience with capacitor bank configuration in Germany gives us the profound knowledge to select the right capacitor configuration for your application and to overcome side by side with the Japanese product engineers and your own R&D team nearly all technical challenges.

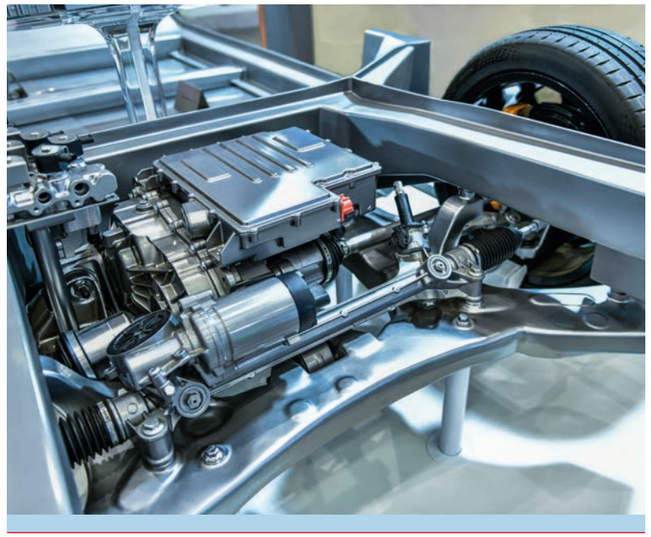
Especially here, the high current capability at the upper temperature range, the high dielectric strength, the low ESR as well as the compact designs of our products **continue to set standards in the market.**

In parallel, we reliably supply your worldwide production just in time and master the short-term demands fluctuations through our local safety and consignment stocks as well as through direct contact with the production and logisticians.

All these points make AIC EUROPE your first-class and preferred partner wherever the lifetime of your high-end application depends on the capacitor bank.

Lifespans greater than 20 years, and best in class reliability. The technology leader in the field of aluminium electrolytic capacitors is your reliable supplier of components.

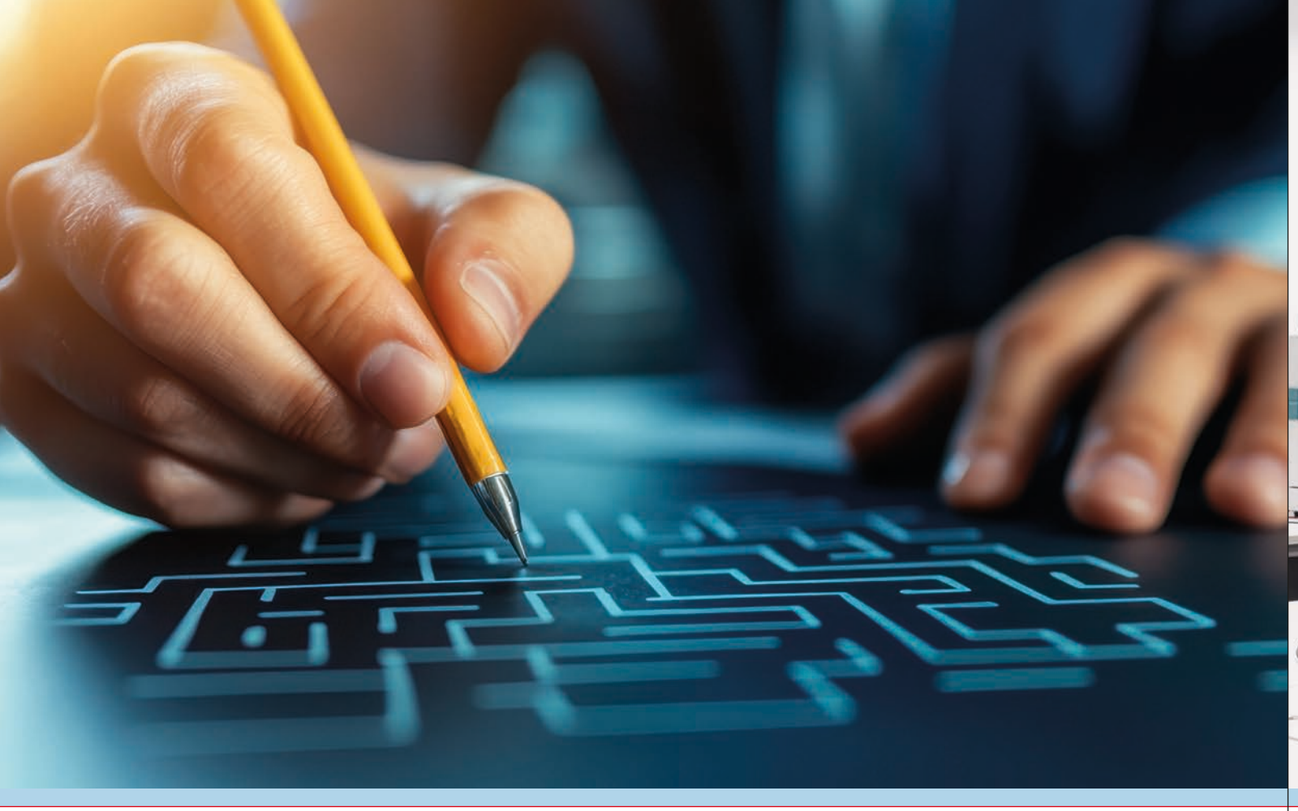




High performance for high demands

Wherever the lifespan of your product depends on the quality of the capacitor, AIC tech is the first choice.

Well-known manufacturers and leading companies in the field of renewable energy, power transmission, drives, medical and railway technology, aerospace and electrical equipment rely on AIC.



The path to your optimum DC-Link solution

Almost thirty years of experience, engineers and testing facilities – a good foundation for comprehensive support.

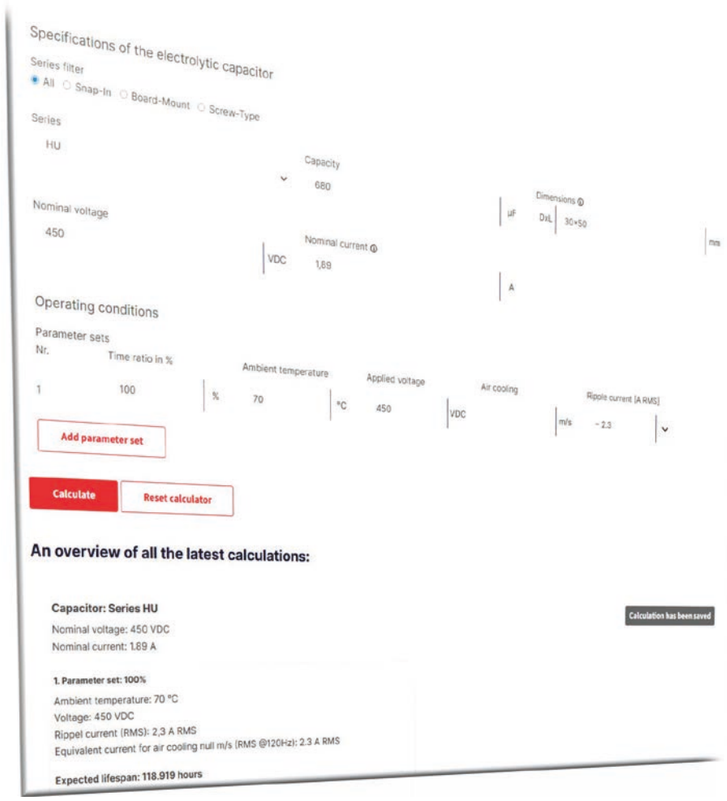
Our in-house laboratory makes use of extensive test and measurement equipment allowing us to carry out in-depth technical analysis. Whether it's the monitoring of leakage currents, the change in capacitance, the rise in core temperature or the expected service life with rated ripple current loads – We perform these investigations in heat chambers and simulate your applications under equivalent operating conditions or under accelerated tests conditions.

This includes:

- Core temperature measurement for current load tests with ripple current generators
- Long-term test for life expectancy analysis (endurance tests)
- Investigations of overload capability
- Extensive comparative tests (benchmarking)

We analyse your load profile and also provide you with samples with a built-in temperature sensor.

Fast and flexible delivery in the case of urgent samples



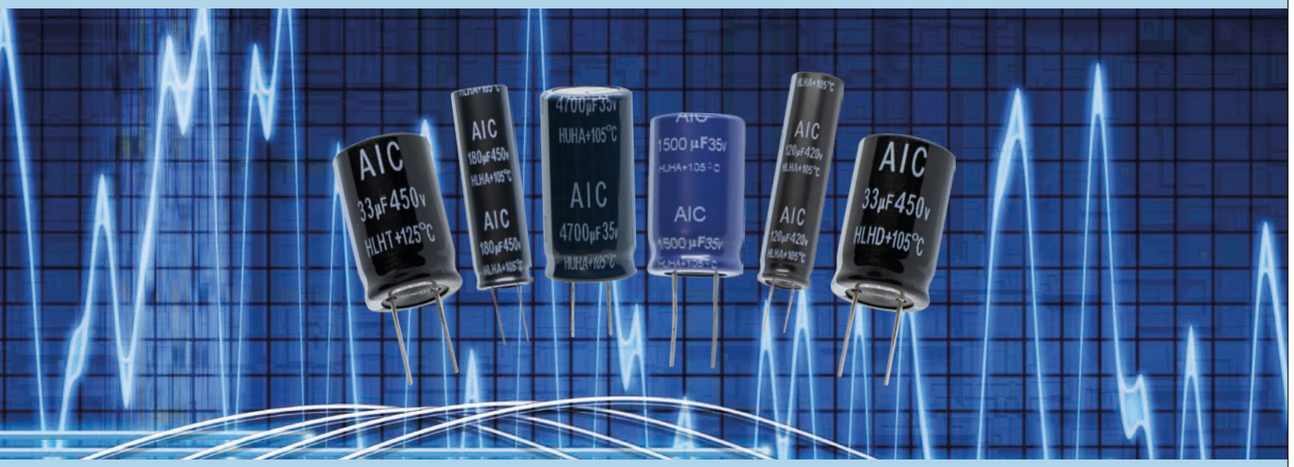
Service

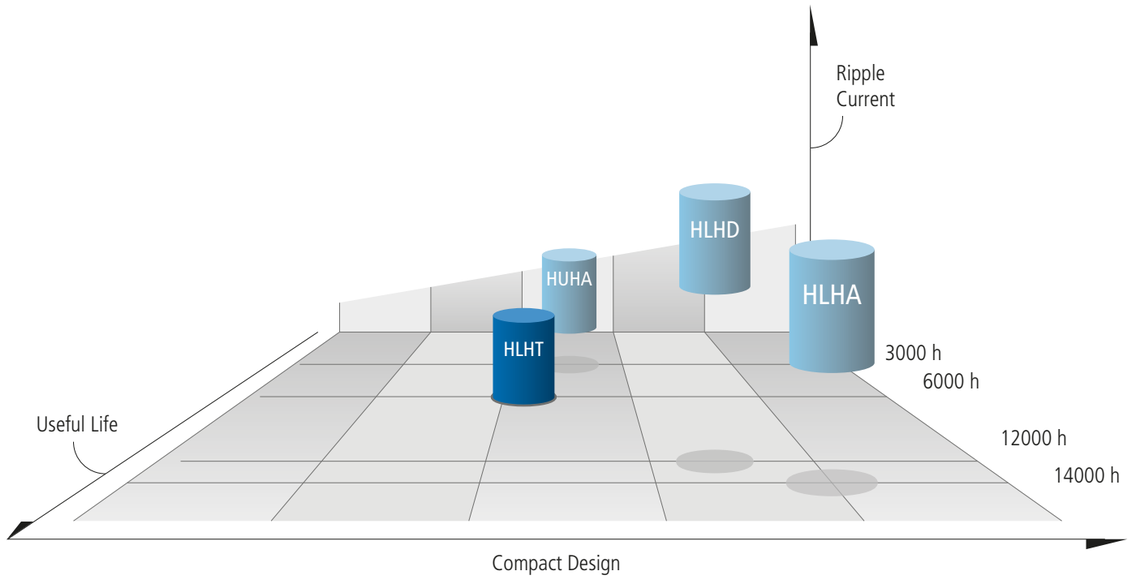
Do you want to know if the selected capacitor meets all the requirements of your application?

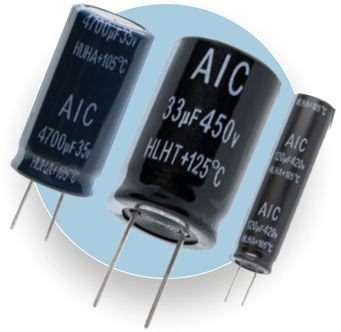
Get a first quick check by using our online lifetime calculation tool

Radial Series

HUHA · HLHA · HLHD · HLHT







125 °C Radial Capacitor

HLHT 160 V – 450 V · -40 °C/-25 °C ~ +125 °C · 6000 h at 125 °C
Highest Temperature Design

105 °C Radial Capacitor

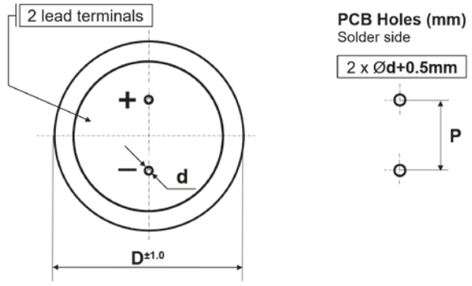
HUHA 6.3 V – 500 V · -40 °C ~ +105 °C · 3000 h at 105 °C
Standard Performances

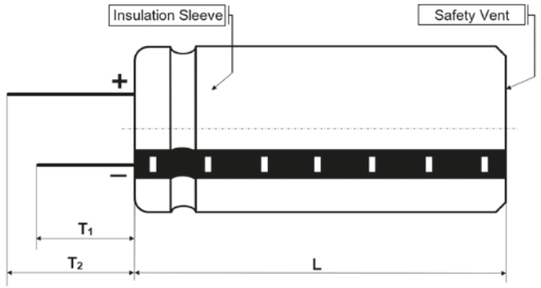
HLHA 160 V – 450 V · -40 °C ~ +105 °C · 14000 h at 105 °C
Compact Design · Long Life

HLHD 160 V – 550 V · -40 °C ~ +105 °C · 12000 h at 105 °C
High Ripple Current · High Voltage · Long Life

› Radial Outline Drawings

Shape: **L** (long lead T1 = 15 mm min, T2 = 20 mm min)

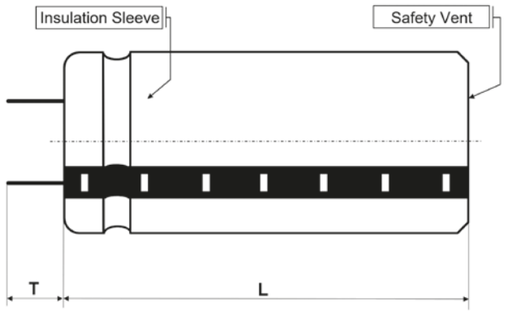


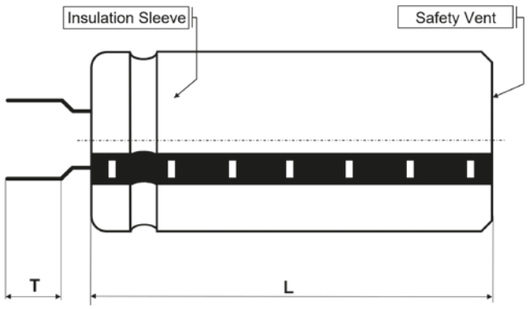


Diameter [D mm]	5.0	6.3	8.0	10.0	12.5	16.0	18.0	20.0	22.0
Pitch (P mm)	2.0	2.5	3.5	5.0	5.0	7.5	7.5	7.5*	10.0
Lead diameter (d mm)	0.5		0.6			0.8			1.0

* Also available with P = 10.0 mm

Shape: **CUT**



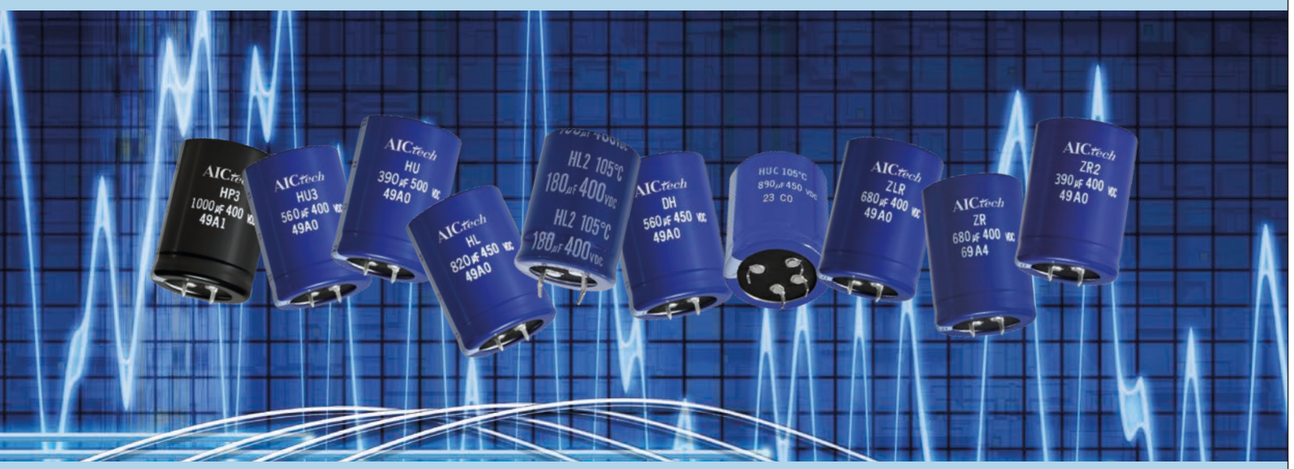


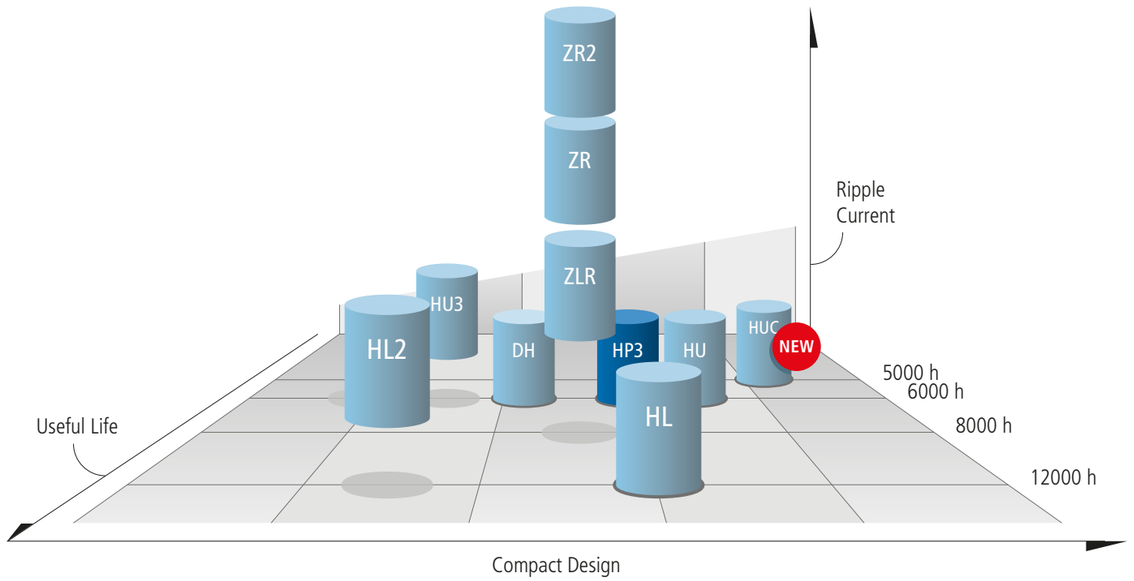
Straight lead / bended lead	C	D	E	F
T (± 0.5 mm)	4.5	4.0	3.5	3.0

Shape:
bended or **taped** available on request

Snap-In Series

HP3 · HU3 · HU · HL · HL2 · DH · HUC · ZLR · ZR · ZR2





85 °C Snap-In Capacitor

HP3 **Standard Performances · Compact Design** ..... **6000 h at 85 °C**
16 V – 500 V · -40 °C ~ +85 °C — AEC-Q200 qualified
Low temperature operation, high voltage and large voltage range

105 °C Snap-In Capacitor

HU3 **Standard Performances · Higher Ripple** ..... **6000 h at 105 °C**
16 V – 500 V · -40 °C ~ +105 °C — AEC-Q200 qualified
Low temperature operation, high voltage and large voltage range

HU **Standard Performances · Compact Design** ..... **6000 h at 105 °C**
200 V – 550 V · -40 °C/-25°C ~ +105 °C — AEC-Q200 qualified
Low temperature operation (and available on request), small-sized, large-capacitance

HUC **Standard Performances · Most Compact Design** ..... **5000 h at 105 °C** NEW
450 V · -25 °C ~ +105 °C
Large-capacitance, small-sized, high energy

HL **Compact Design · Long Life** ..... **12000 h at 105 °C**
200 V – 500 V · -40 °C/-25°C ~ +105 °C — AEC-Q200 qualified
Low temperature operation (and available on request), small-sized, life >200kh at 70°C

HL2 **Long Life** ..... **12000 h at 105 °C**
200 V – 500 V · -40 °C/-25°C ~ +105 °C — AEC-Q200 qualified
Low temperature operation, life >200kh at 70°C

DH **Permanent and deep Charge-Discharge application Design** ..... **6000 h at 105 °C**
400 V – 450 V · -25 °C ~ +105 °C — AEC-Q200 qualified

ZLR **High Ripple Current · ULTRA low ESR · Compact Design** ..... **8000 h at 105 °C**
400 V – 450 V · -25 °C ~ +105 °C — AEC-Q200 qualified
Low ESR and particularly at high frequencies, small diameter and different case sizes

ZR **Higher Ripple Current · ULTRA low ESR · Compact Design** ..... **8000 h at 105 °C**
400 V – 450 V · -40 °C ~ +105 °C
Lowest ESR and particularly at high frequencies, (different case sizes available on request)

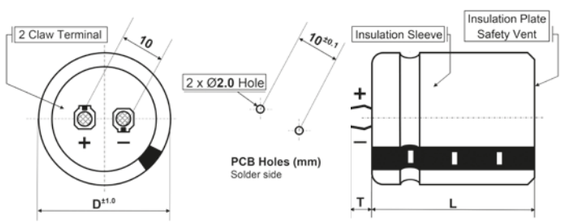
ZR2 **Highest Ripple Current · Side Vent · Low ESR · Compact Design** ..... **8000 h at 105 °C**
400 V – 450 V · -25 °C ~ +105 °C
Longest life time at high core temperatures and most robust against heat development

Items	Characteristics
Capacitance tolerance (at 20 °C)	Standard +/-20%, -10% / +30% on request
Surge voltage	max. 30 sec per 6 Minutes, 1000 times
Leakage current max. I_L (20 °C, 5 min)	0.02 • C • V_r [µA] or 3 mA, which is smaller
Field failure rate	0.5 FIT = 0.5 • 10^{-9} Failures/hour
Reference standards	IEC 60384-4, JIS C 5101-4
Vibration	0.75 mm, 10...55 Hz, 10 g, 3x2 h
Sleeve withstanding voltage	3000 Vac / 1 min between terminals bundled and plate*
Product Compliance	RoHS, REACH, Conflict Minerals a.o.

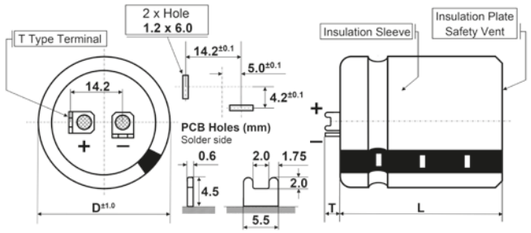
* Typical value using sleeve which is free from any scratches and damages

Snap-In · General Specifications

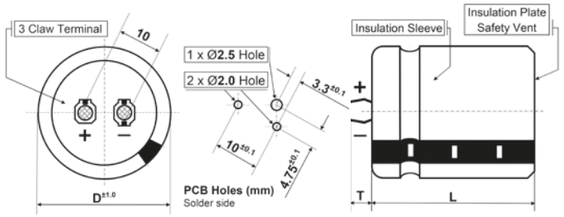
› Snap-in Outline Drawings



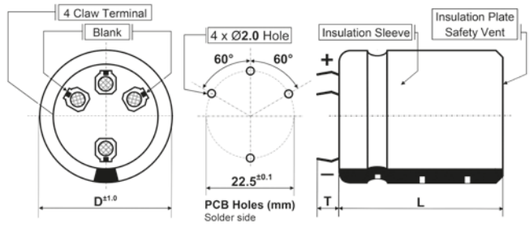
Shape: **R** (D = 20 ~ 35 mm, long pin **T** = 6.3 ± 1.0 mm)
C (D = 20 ~ 35 mm, short pin **T** = 4.0 ± 0.5 mm)



Shape: **T** (D = 30 ~ 40 mm, **T** = 4.5 ± 0.5 mm)



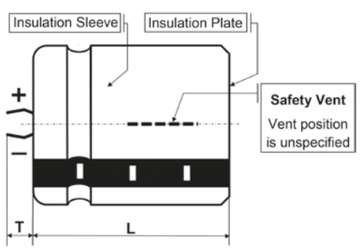
Shape: **E** (D = 22 ~ 35 mm, **T** = 4.0 ± 0.5 mm)



Shape: **S** (D = 35 ~ 46 mm, long pin **T** = 6.3 ± 1.0 mm)
X (D = 35 ~ 46 mm, short pin **T** = 4.0 ± 1.0 mm)

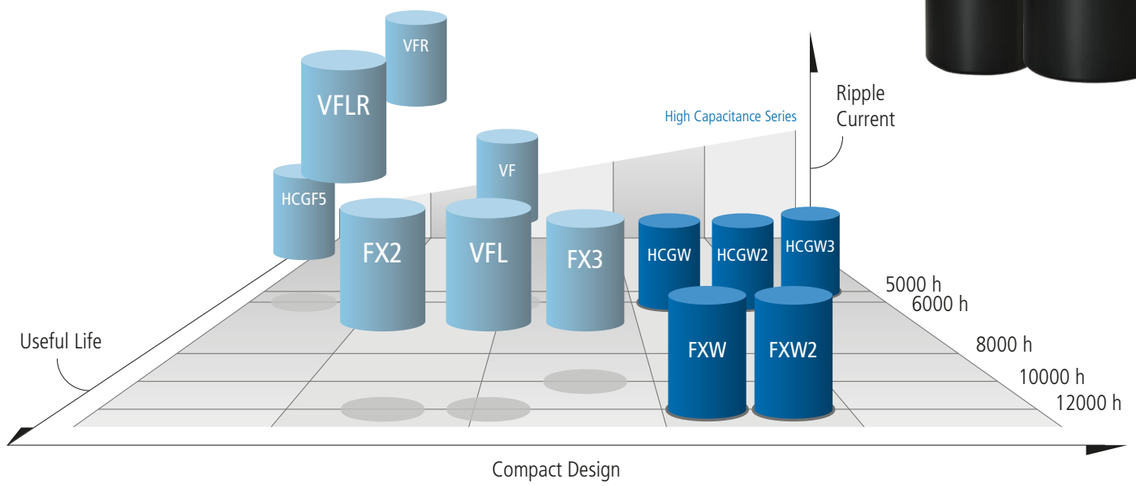
› Side vent

- standard design for ZR2 series
- optional design for HP3, HU3, HU



Screw Type Series

VF · VFL · FX2 · FX3 · HCGF5 · VFR · VFLR · VG · VGL · HCGH · VGR · VGLR
HCGW · HCGW2 · HCGW3 · FXW · FXW2



85 °C High Capacitance Series

HCGW **High capacitance · Ultra compact** ..... **6000 h at 85 °C**
350 V – 500 V · -10 °C ~ +85 °C — Charge/Discharge
High energy, largest case options — Design on request

HCGW2 **Higher capacitance · Ultra compact** ..... **6000 h at 85 °C**
400 V – 500 V · -10 °C ~ +85 °C — Charge/Discharge
highest energy up to 85°C — Design on request

HCGW3 **Highest capacitance · Most Compact** ..... **5000 h at 70 °C**
350 V – 500 V · -10 °C ~ +70 °C — Charge/Discharge
highest energy small-sized — Design on request

FXW **High capacitance · Ultra compact · Long Life** ..... **12000 h at 85 °C**
350 V – 450 V · -10 °C ~ +85 °C — Charge/Discharge
High long-life energy, largest case options — Design on request

FXW2 **Higher capacitance · Ultra compact · Long Life** ..... **12000 h at 85 °C**
350 V – 500 V · -10 °C ~ +85 °C — Charge/Discharge
highest long-life energy up to 85 °C — Design on request

85 °C Screw-Terminal Capacitor

VF **Standard Performances · Bottom cooling design · Smaller Size** ..... **6000 h at 85 °C**
6.3 V – 650 V · -40 °C ~ +85 °C — Charge/Discharge
Low temperature operation, highest voltage and large voltage range — Design on request

VFL **Long Life · Bottom cooling design · Smaller Size** ..... **12000 h at 85 °C**
350 V – 600 V · -40 °C ~ +85 °C — Charge/Discharge
Low temperature operation, high voltage — Design on request

FX2 **Long Life · Compact** ..... **12000 h at 85 °C**
350 V – 600 V · -40 °C ~ +85 °C — Charge/Discharge
Low temperature operation, high voltage, wide-ranging case variations — Design on request

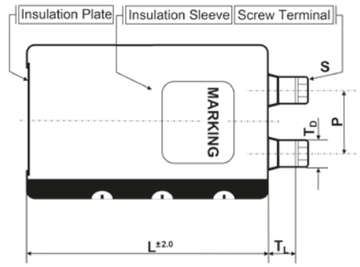
FX3 **More Compact Design · Long Life** ..... **10000 h at 85 °C**
400 V – 500 V · -40 °C ~ +85 °C — Charge/Discharge
Low temperature operation, small-sized — Design on request

HCGF5 **Standard Performances · Small Diameter Design** ..... **6000 h at 85 °C**
160 V – 250 V · -25 °C ~ +85 °C — Charge/Discharge
Lower Voltage, most flame resistant — Design on request

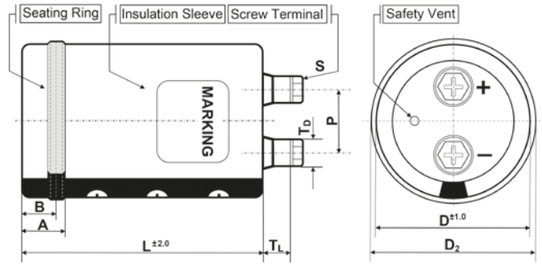
VFR **High Ripple Current · Bottom cooling design · Low ESR** ..... **6000 h at 85 °C**
350 V – 500 V · -40 °C ~ +85 °C
Low temperature operation, robust design against high load conditions

VFRL **Long Life · High Ripple Current · Bottom cooling design · Low ESR** ..... **12000 h at 85 °C**
350 V – 500 V · -40 °C ~ +85 °C
Low temperature operation, more robust design against high load conditions

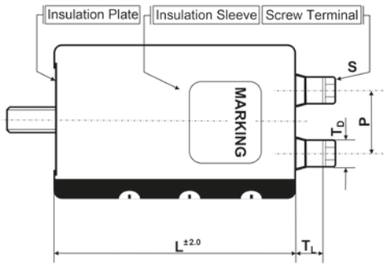
› Screw Type Outline Drawings



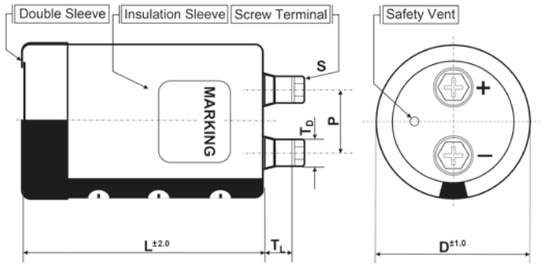
Shape: **N** (for PBT-Holder – Ø D = 77-101 mm or for press ring – Ø D = 64-90 mm or customized)



Shape: **N** with Suffix **WC** (blank bottom and integrated seating ring for radiator mounting – Ø D = 77-90 mm)



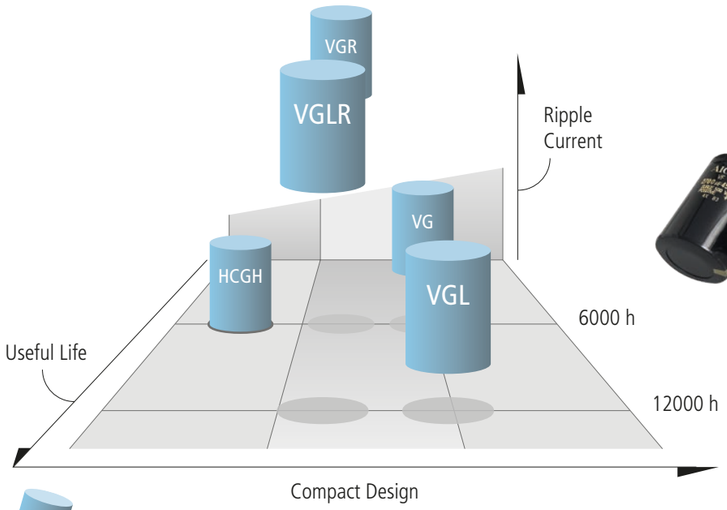
Shape: **B = stud bolt** (not isolated)



Shape: **I,Y, X = bottom double sleeve**

for metal bracket mounting
I type: 2 fixing point – Ø D = 36-90 mm
Y type: 3 fixing point – Ø D = 51-101 mm
X type: 4 fixing point – Ø D = 121 mm

Screw-Terminal · General Specifications



105 °C

105 °C Screw-Terminal Capacitor

VG **Standard Performances · Bottom cooling design** ..... **6000 h at 105 °C**
25 V – 500 V · -40 °C ~ +85 °C — Charge/Discharge
Low + high temperature operation and large voltage range — Design on request

VGL **Long Life · Bottom cooling design** ..... **12000 h at 105 °C**
350 V – 500 V · -40 °C ~ +105 °C — Charge/Discharge
Low + high temperature operation — Design on request

HCGH **Standard Performances · Small Diameters** ..... **6000 h at 105 °C**
25 V – 450 V · -40 °C ~ +105 °C — Charge/Discharge
Low & high temperature, wide-ranging case variations — Design on request

VGR **High Ripple Current · Bottom cooling design · Low ESR** ..... **6000 h at 105 °C**
350 V – 500 V · -40 °C ~ +105 °C
Low & high temperature operation, very robust design against high load conditions

VGLR **Long Life · High Ripple Current · Bottom cooling design · Low ESR** ..... **12000 h at 105 °C**
350 V – 500 V · -40 °C ~ +105 °C
Low & high temperature operation, most robust design against high load conditions

Shape Code	N	N + suffix WC	B	I or Y or X
single outer sleeve	•	•	•	•
standard or customized insulation plate	•		•	•
stud bolt for cap nut fixing			•	
bottom double sleeve for mounting with metal bracket				•
integrated seating ring and blank bottom for radiator mounting		•		
	 PBT holder/pressring/ customized mounting	 PBT holder for bottom cooling	 Cap Nut fixing	 metal bracket mounting

Accessories

Supplements for the capacitor and beyond.

Increasingly important are products that complete the connection of capacitors.

For all installation requirements, from the quick mount press-in ring to the PBT holders providing highest level of support and isolation voltage of 5.4 kV AC, we can provide a solution to meet your requirements.

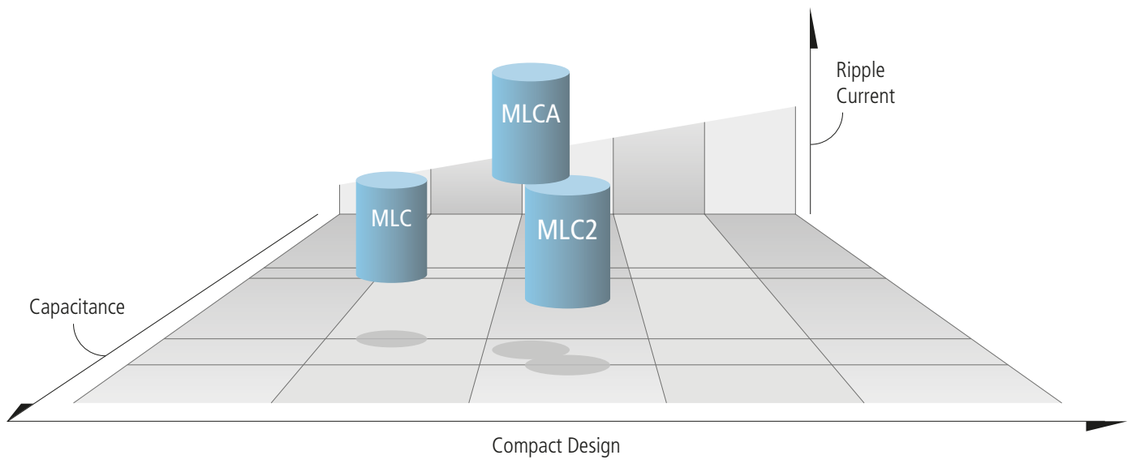
Temperature resistant and solid resistors with advanced connectivity options for voltage balancing and discharge ensure a high degree of flexibility.

For maximum effectiveness and the greatest increase in the ripple current capability capacity of up to 75 %, we offer PBT holders for heatsink mounting with insulating thermal foils (4.5 kVAC) and creepage distances pursuant to the UL standards.

As a logical continuation of the AIC philosophy in which only approved and compatible components result in a reliable end product, we offer selected accessories for attachment as well as for the mechanical and electrical optimization of our capacitors.

Screw Type Film Capacitors

MLC · MLC2 · MLCA



› Cylindrically-shaped metallized Polypropylene Film

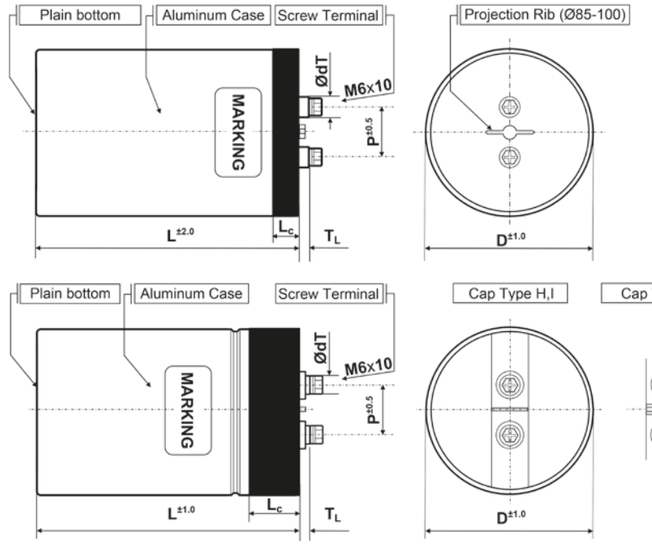
MLC 900 V – 1500 Vdc · -40 °C ~ +85 °C
Standard Performances · Fuse Function · High withstanding voltage design for permanent and deep charge-discharge application

MLC2 800 V – 900 Vdc · -40 °C ~ +85 °C
Larger capacitances · Fuse Function · High withstanding voltage design for permanent and deep charge-discharge application

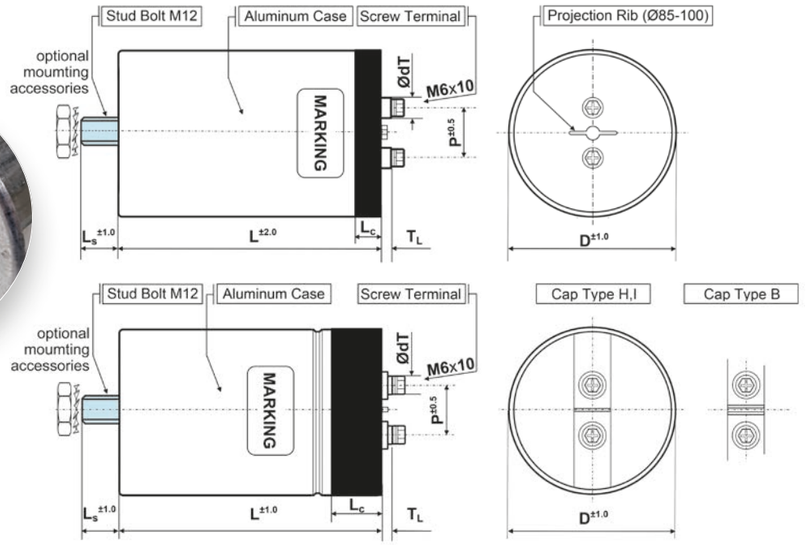
MLCA 600 V – 2200 Vdc · -40 °C ~ +85 °C
High ripple current · High voltage

› Outline Drawings and Shape Code

Shape Code: **N = plain bottom**

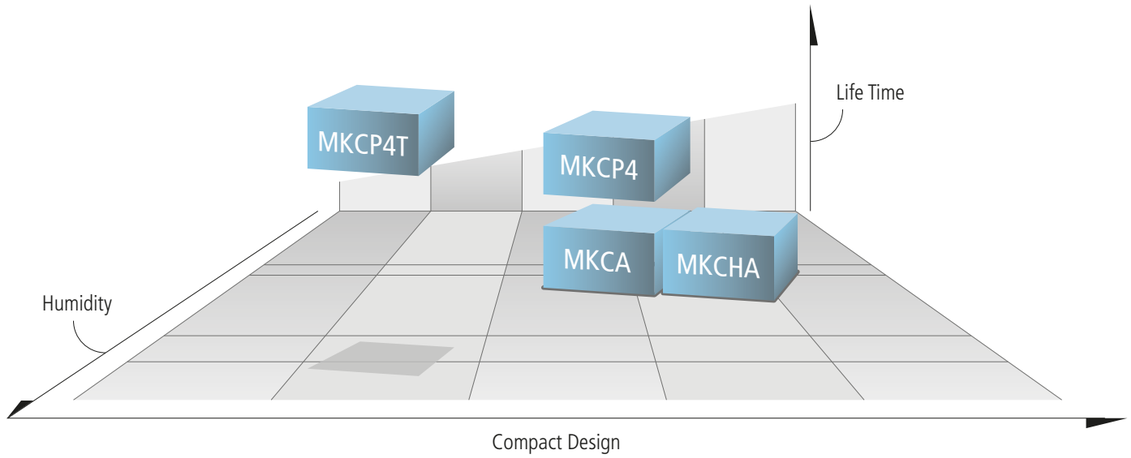


Shape Code: **B = stud bolt**



PCB Mount Film Capacitors

MKCA · MKCHA · MKCP4 · MKCP4T



› Resin encased Box type metallized Polypropylene Film Capacitors

MKCA 450 V – 1100 Vdc · -40 °C ~ +105 °C
Standard Performances

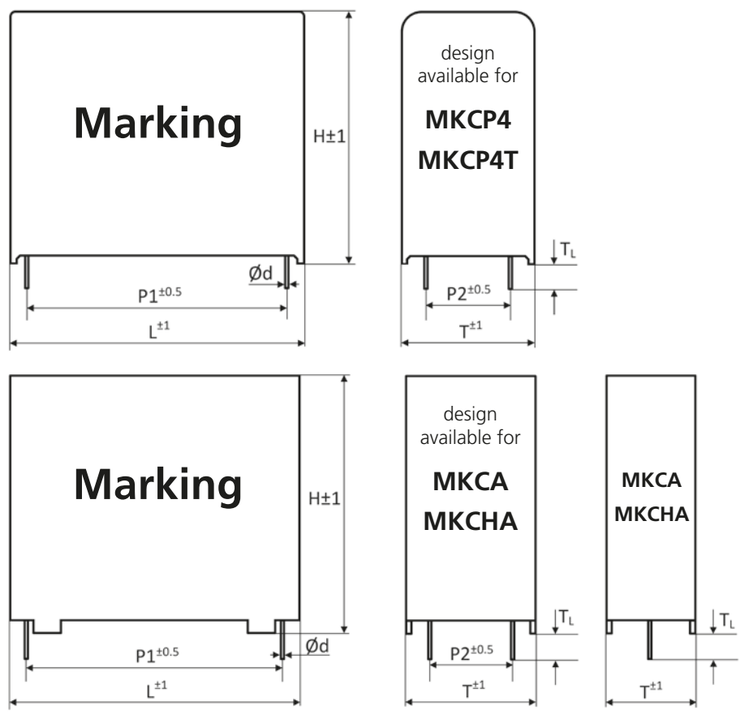
MKCHA 450 V – 1500 Vdc · -40 °C ~ +105 °C
Standard Performances

MKCP4 450 V – 1100 Vdc · -40 °C ~ +105 °C
High Performances · optional available
with Fuse Function and higher withstanding voltage

MKCP4T 450 V – 1100 Vdc · -40 °C ~ +105 °C
High-Humidity THB-type (85° C / 85 % RH – 1000 hrs) optional available
with Fuse Function and higher withstanding voltage

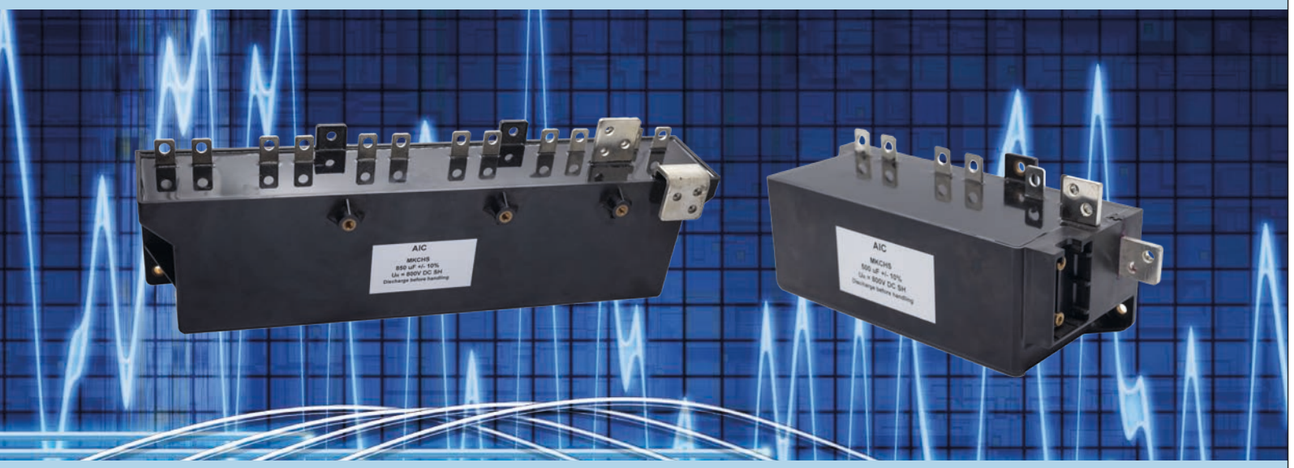
› Outline Drawings

Shape:	**long pin**	**no suffix (standard shape)**	**T_L = 6.0 mm$^{+0}_{-1.0}$**
	short pin	**suffix C**	**T_L = 3.5 mm – 4.5 mm$^{\pm 0.5}$**
	customized	**suffix S**	**specific T_L, Ød or pitch**
Safty function:	**self healing**	**(no suffix)**	
	fuse function	**suffix P (not available for MKCA / MKCHA)**	



Customized Film Capacitors

MKCHS



Compact · Low ESL · Low ESR · AEC-Q200 · Optional UL 810 standard compliance

> Specifications

Items	Characteristics
Temperature range	-40 °C ~ + 105 °C
Rated Voltage U_N	450 ~ 2 000 Vdc at 85 °C (other available on request)
Capacitance	200 µF ~ 2000 µF at 100 Hz (other available on request)
Capacitance tolerance	+/- 5 % ... +/- 10 % at 20 °C, 50–120 Hz
Voltage derating	specific derating beginning by $T_{HOTSPOT}$ = 85 °C
Current derating	specific derating depending from inner design*
Voltage test between terminals U_{TT}	1.5 x U_N at 20 °C for 10 s
Voltage test terminals to case U_{TC}	≥ 3 000 V_{AC} at 50 Hz, 20 °C for 10 s
Life Time Test / Reference Standard	IEC 61071 : 2007
Life Time Expectancy	100 000 hrs ($T_{HOTSPOT}$ 70 °C, 1.0 x U_N)
Failure Rate	≤ 50 FIT = 50 x 10^{-9} Failures / hour
Dielectric	Polypropylene
Case and filling material	UL94V-0 listed PPS and epoxy resin
Climatic category (IEC 61071)	40 / 105 / 56
Product Compliance	RoHS, REACH, Conflict Minerals a.o.

I_R: 110 Arms at 85 °C, 1–10 kHz
Î peak: 2 kArms
ESR: 0.6 mΩ at 20 °C, 10 kHz
ESL: 8 nH at 20 °C

Compliance statement

As a well-established European supplier of electronic components, we are aware of our responsibilities and obligations in regards to the laws and regulations concerning the safety, health and welfare at work of every single person working along our supply chain as well as of the people who come into contact with our components.

This leads AIC Europe to exclusively work with manufacturers who share our respect for human rights, ethics and the protection of the environment and in particular to take due diligence, that their parts entirely complies with the applicable regulations.

Products and accessories from this catalog comply among other with the following regulations and directives at the beginning of 2026:

- Restriction of Hazardous Substances Directive **RoHS** 2011/65/EU & amendment (EU)2015/863
- Regulation (EC) No 1907/2006 **REACH**
  Registration, Evaluation, Authorisation and Restriction of Chemicals based on the SVHC candidate list updated by 2026, February 4th
- OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas by providing for all our products

  - a Conflict Minerals Reporting Template **(CMRT)** in accordance with the Dodd-Frank Wall Street Reform and Consumer Protection Act, Section 1502 on conflict minerals

  - an Extended Minerals Reporting Template **(EMRT)** for further conflict minerals
- Regulation/Verordnung (EU) 2019/1021 on persistent organic pollutants – **POP** ammended by delegated Regulation (EU) 2021/277
- Safe Drinking Water and Toxic Enforcement Act of 1986 (California's Proposition **CP65**)
  Chemicals known to the State to cause cancer or reproductive toxicity (as of Dec 8, 2020)
- Toxic Substances Control Act 1976 EPA **TSCA** 6 (h)

AICtech & AIC EUROPE

AIC tech and AIC EUROPE remain committed to

- continiously collect relevant information with our reasonably best available effort from our suppliers and provide our best available information to our customers
- provide updated information timely to the customers when we receive modified or added information from our suppliers
- strive to spread this approach along our supply chains to ensure that, in the end, our customers too comply with the relevant regulations


74%
85min.
65%

AIC EUROPE

Sales & technical support of AIC capacitors

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2026