



 **Kendeil™**
D.C. Power
Film
Capacitors

OVERVIEW

COMPANY PRESENTATION

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CAPACITORS

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databook 2014

COMPANY PRESENTATION

Kendeil is an Italian factory with over 30 years of experience in manufacturing high quality large can aluminium electrolytic capacitors and power film capacitors.

Actual production range spreads from large can screw terminal type capacitors with high end performances to snap in terminal type capacitors mainly used on PCB boards, and to the motor start type for alternate current applications.

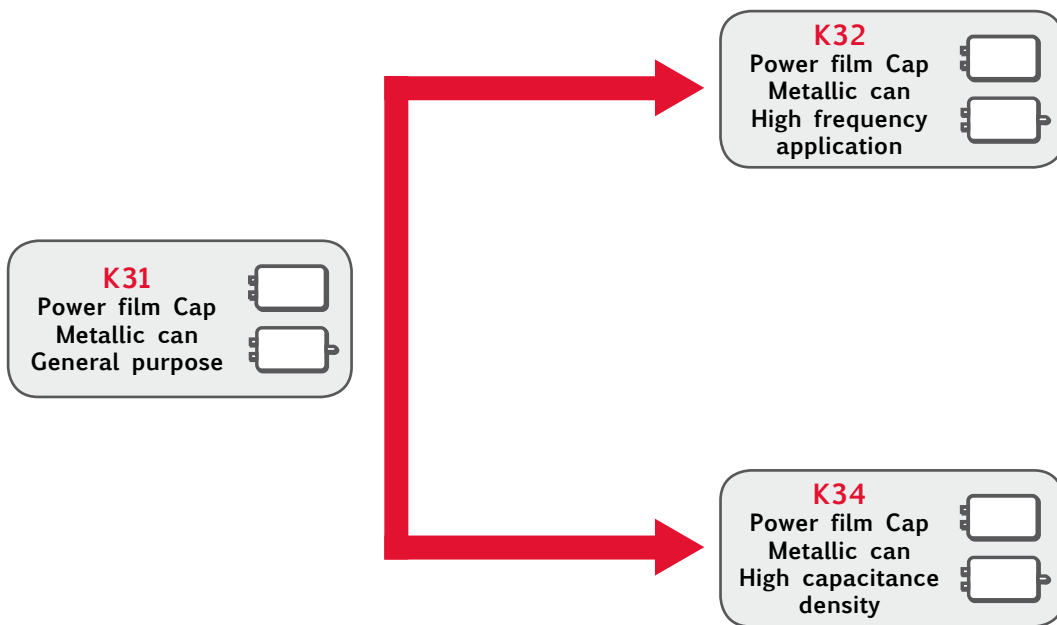
A continuous improvement in building technology and automatic computerized machines gives the company a leading role in the market of electronics components, along with competitive priced products and reliability performances. Also the flexibility of its structure is able to meet any custom design requirement.

All capacitors are international standards compliant (CECC, DIN, IEC) and the achieved Quality Certification ISO 9001 marks an important milestone on the Kendeil history.

Visit our website:
www.kendeil.com

PRODUCT ROAD MAP

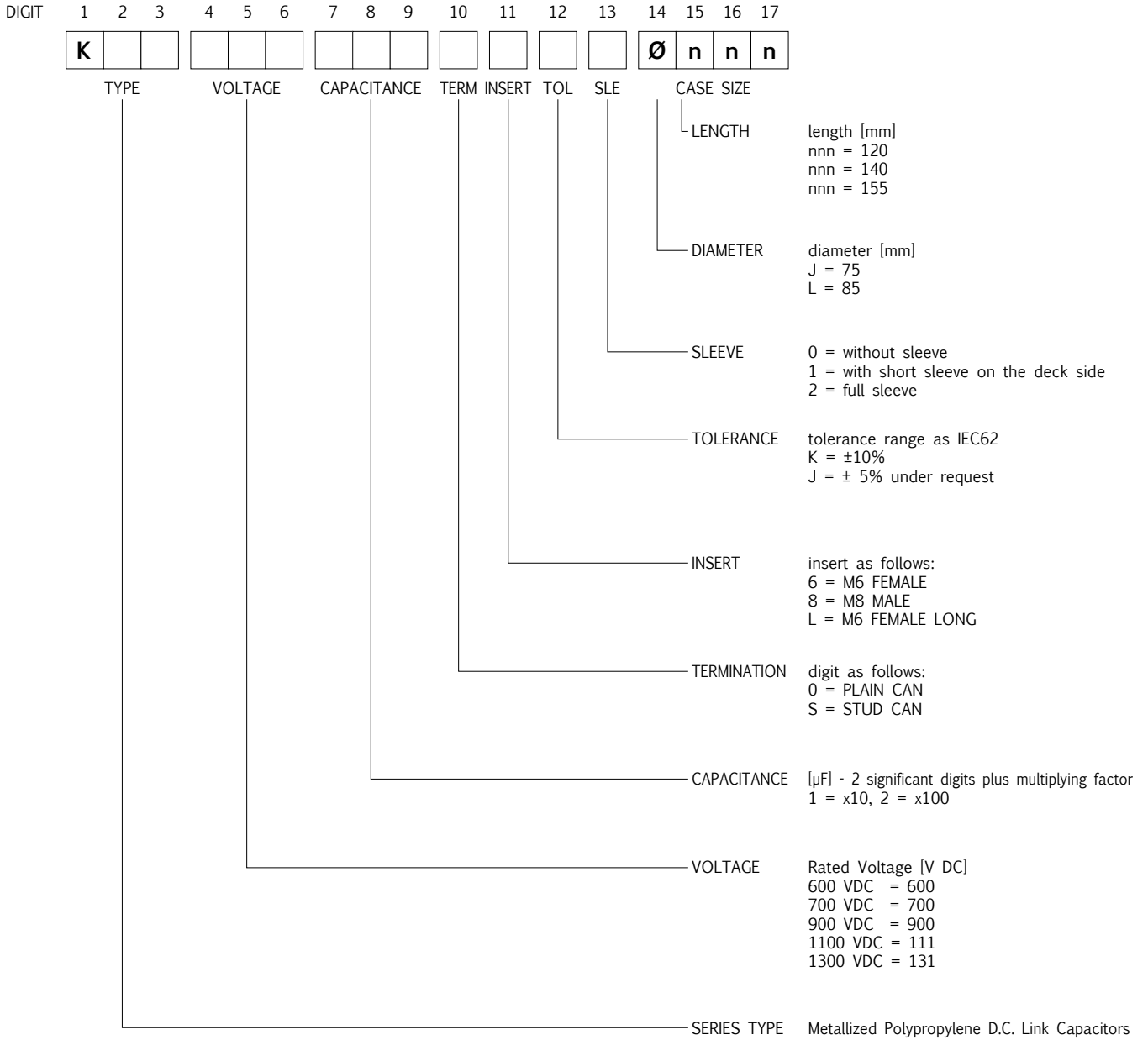
Metallized polypropylene D. C. Link Capacitors



PART NUMBER SYSTEM

Total length is 17 digits.

METALLIZED POLYPROPYLENE D. C. LINK CAPACITORS



CAP WEIGHT TABLE

SIZE Ø x L [mm]	CASE CODE	APPROX UNIT WEIGHT		QTY per BOX pcs	BOX DIMENSIONS cm
		M6 female long and short style grams	M8 male style grams		
75x120	J120	650	670	16	38.5x38.5x20
75x140	J140	720	740	16	38.5x38.5x20
75x155	J155	800	820	8	37x26x26
85x120	L120	780	800	6	37x26x26
85x140	L140	880	900	6	37x26x26
85x155	L155	980	1000	6	37x26x26

NOTE: Weight in the above table are meaningful as average value from production batches

APPLICATIONS

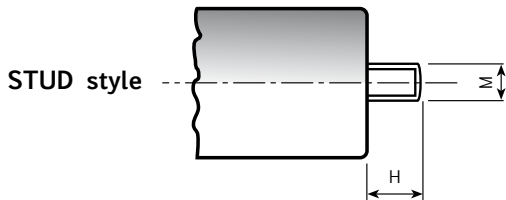
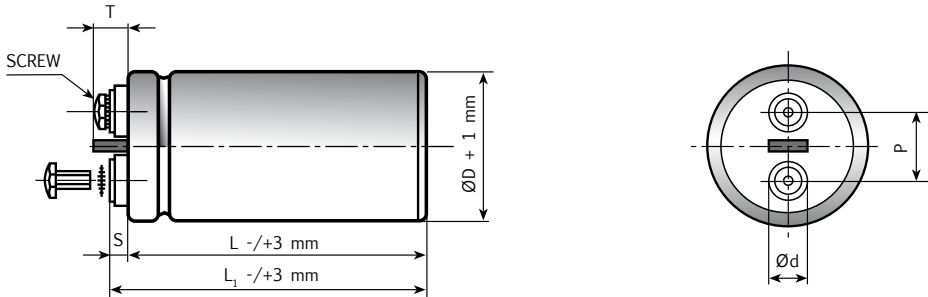
Designed for professional power electronics by slope metallization.
 Low and medium frequencies switching.
 Solar converters, Motor drives, Inverters, Welding.

GENERAL INFORMATION

Reference	IEC 61071-1
IEC climatic	40/85/21 IEC 68-1
Storage temperature	-40 to +90°C
Temperature range	-40 to +85°C
Case	Aluminium case with or without stud M12
Maximum screw torque strength for stud M12	8 Nm
Deck	Plastic deck UL94 (V0)
Insert style of deck.	High current M6 female terminals, M8 male terminals
Maximum screw torque strength for insert.	3Nm x M6, 6Nm x M8,
Dielectric	Self healing polypropylene film
Filling	Self-extinguishing (V0) polyurethane resin
Surge voltage between terminals	X1.5 10sec 25°C
Test voltage terminal to case	4KV 50Hz for 2 sec
Capacitance deviation range temperature	+/- 1.5% @ 25°C
Tolerance (digit 12 th)	"K" = -10%, +10% "J" = -5% +5% under request
Mounting	Horizontal - vertical
Maximum ripple current	100A
Max dV/dt not repetitive peak	≤ 40 V/μsec
Life	100000 H - Nominal Voltage @ 85°C
Failure Rate	300 FIT
Expected life estimation based on application conditions and our life formula	Please contact our technical service.
End life criteria	+/-10% cap

MECHANICAL SPECIFICATIONS

M6 STANDARD FEMALE STYLE



M6 LONG FEMALE STYLE

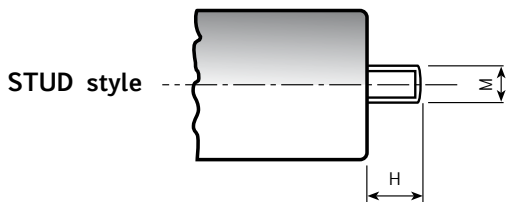
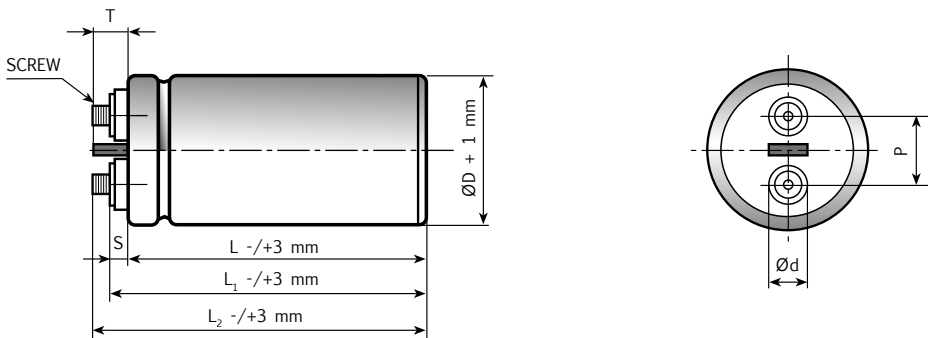


Diagram of dimensions (unit=mm)

MECHANICAL SPECIFICATIONS

M8 MALE STYLE

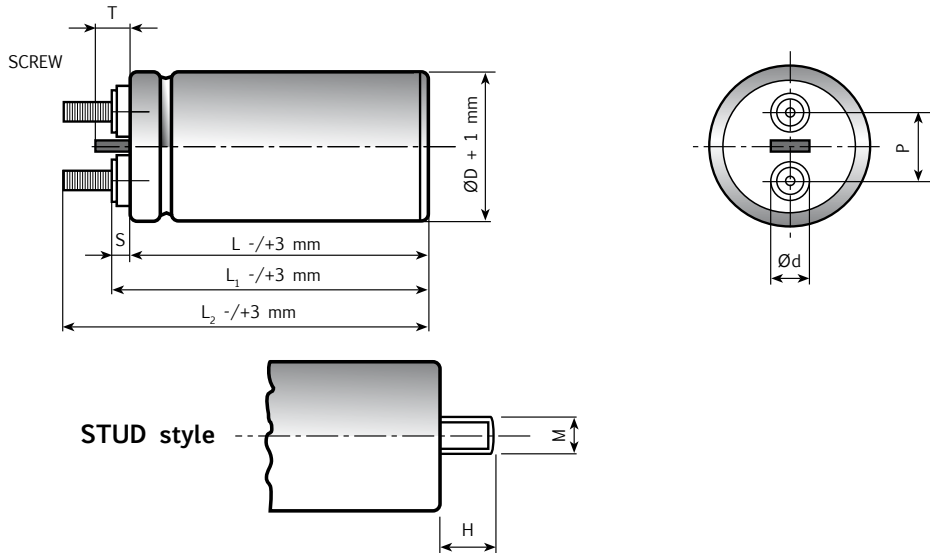


Diagram of dimensions (unit=mm)

ØD	d	P	M	H	T	L ₁ - L	L ₂ - L	L ₂ - L ₁
75 male	22.20	31.8	M12	16	11	9	29	20
85 male	22.20	31.8	M12	16	11	9	29	20
75 female M6	22.20	31.8	M12	16	11	9	Not defined	
85 female M6	22.20	31.8	M12	16	11	9	Not defined	
75 female M6 long	22.20	31.8	M12	16	11	9	14	5
85 female M6 long	22.20	31.8	M12	16	11	9	14	5

K31 TYPE STANDARD RATINGS

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	Ir a.c. A max 10K Hz 40°C	Ir a.c. A max 10K Hz 60°C	Ir a.c. A max 10KHz 75°C	dV/dt V/μsec	I pk A	PART NUMBER Termination digit excluded
500	75x120	1.5	35	5.2	67	51	32	7.0	3495	K31600501_KOJ120
620	75x140	1.6	35	4.6	69	52	33	6.3	3907	K31600621_KOJ140
650	85x120	1.6	40	4.4	71	53	34	7.0	4544	K31600651_KOL120
700	75x155	1.7	35	4.1	71	54	34	6.3	4410	K31600701_KOJ155
800	85x140	1.6	40	3.9	75	57	36	6.3	5040	K31600801_KOL140
900	85x155	1.6	40	3.4	80	61	38	6.3	5670	K31600901_KOL155
1000	85x155	1.6	40	3.4	80	61	38	6.3	6294	K31600102_KOL155

**RATED
VOLTAGE
VDC**

600V

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	Ir a.c. A max 10K Hz 40°C	Ir a.c. A max 10K Hz 60°C	Ir a.c. A max 10KHz 75°C	dV/dt V/μsec	I pk A	PART NUMBER Termination digit excluded
350	75x120	1.5	35	5.2	67	51	32	8.2	2854	K31700351_KOJ120
420	75x140	1.6	35	4.6	69	52	33	7.4	3087	K31700421_KOJ140
450	85x120	1.4	40	4.4	75	57	36	8.2	3670	K31700451_KOL120
500	75x155	1.4	40	4.1	78	59	37	7.4	3675	K31700501_KOJ155
550	85x140	1.3	40	3.9	83	63	40	7.4	4043	K31700551_KOL140
600	85x155	1.5	40	3.4	83	63	40	7.4	4410	K31700601_KOL155
700	85x155	1.7	40	3.4	78	59	37	7.4	5072	K31700701_KOL155

**RATED
VOLTAGE
VDC**

700V

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	Ir a.c. A max 10K Hz 40°C	Ir a.c. A max 10K Hz 60°C	Ir a.c. A max 10KHz 75°C	dV/dt V/μsec	I pk A	PART NUMBER Termination digit excluded
220	75x120	1.9	35	5.2	60	45	28	9.3	2050	K31900221_KOJ120
270	75x140	1.6	35	4.6	69	52	33	8.4	2268	K31900271_KOJ140
300	75x155	1.7	35	4.1	71	54	34	8.4	2520	K31900301_KOJ155
300	85x120	1.4	40	4.4	75	57	36	9.3	2796	K31900301_KOL120
350	85x140	1.7	40	3.9	73	55	35	8.4	2940	K31900351_KOL140
370	85x120	1.6	40	4.4	71	53	34	9.3	3448	K31900351_KOL120
400	75x155	1.7	35	4.1	71	54	34	8.4	3293	K31900401_KOJ155
450	85x140	1.7	40	3.9	73	55	35	8.4	3780	K31900451_KOL140
500	85x155	1.7	40	3.4	78	59	37	8.4	4200	K31900501_KOL155
550	85x155	1.7	40	3.4	78	59	37	8.4	4389	K31900551_KOL155

**RATED
VOLTAGE
VDC**

900V

K31 TYPE STANDARD RATINGS

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	Ir a.c. A max 10K Hz 40°C	Ir a.c. A max 10K Hz 60°C	Ir a.c. A max 10KHz 75°C	dV/dt V/μsec	I pk A	PART NUMBER Termination digit excluded
150	75x120	1.5	35	5.2	67	51	32	10.6	1650	K31111151_KOJ120
190	75x120	1.5	35	5.2	67	51	32	10.6	1907	K31111191_KOJ120
190	75x140	1.5	35	4.6	71	54	34	9.6	1900	K31111191_KOJ140
200	85x120	1.4	40	4.4	75	57	36	10.6	2200	K31111201_KOL120
220	75x155	1.4	35	4.1	78	59	37	9.6	2200	K31111221_KOJ155
240	75x140	1.5	35	4.6	71	54	34	9.6	2304	K31111241_KOJ140
250	85x120	1.4	40	4.4	75	57	36	10.6	2640	K31111251_KOL120
250	85x140	1.3	40	3.9	83	63	40	9.6	2500	K31111251_KOL140
280	75x155	1.4	35	4.1	78	59	37	9.6	2640	K31111281_KOJ155
300	85x155	1.4	40	3.4	86	65	41	9.6	3000	K31111301_KOL155
320	85x140	1.4	40	3.9	80	61	38	9.6	3072	K31111321_KOL140
420	85x155	1.5	40	3.4	83	63	40	9.6	3830	K31111421_KOL155

**RATED
VOLTAGE
VDC**

1100V

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	Ir a.c. A max 10K Hz 40°C	Ir a.c. A max 10K Hz 60°C	Ir a.c. A max 10KHz 75°C	dV/dt V/μsec	I pk A	PART NUMBER Termination digit excluded
120	75x120	2.3	35	5.2	54	41	26	12.8	1531	K31131121_KOJ120
170	75x140	2.2	35	4.6	59	44	28	11.6	1914	K31131171_KOJ140
170	85x120	2.2	40	4.4	60	45	29	12.8	2169	K31131171_KOL120
180	75x155	2.1	35	4.1	64	48	30	11.6	2088	K31131181_KOJ155
220	85x140	2	40	3.9	67	51	32	11.6	2552	K31131221_KOL140
250	85x155	2	40	3.4	72	54	34	11.6	2900	K31131251_KOL155

**RATED
VOLTAGE
VDC**

1300V

APPLICATIONS

Designed for professional power electronics by segmented and slope metallization.
Low, Medium and High frequencies switching.

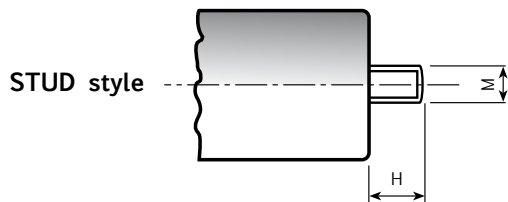
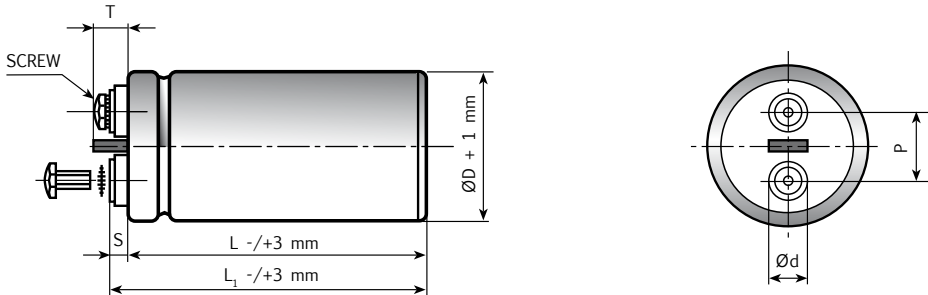
Solar converters, Motor drives, Traction applications, Inverters, Welding.

GENERAL INFORMATION

Reference	IEC 61071-1
IEC climatic	40/85/21 IEC 68-1
Storage temperature	-40 to +90°C
Temperature range	-40 to +85°C
Case	Aluminium case with or without stud M12
Maximum screw torque strength for stud M12	8 Nm
Deck	Plastic deck UL94 (V0)
Insert style of deck.	High current M6 female terminals, M8 male terminals
Maximum screw torque strength for insert.	3Nm x M6, 6Nm x M8,
Dielectric	Self healing polypropylene film
Filling	Self-extinguishing (V0) polyurethane resin
Surge voltage between terminals	X1.5 10sec 25°C
Test voltage terminal to case	4KV 50Hz for 2 sec
Capacitance deviation range temperature	+/- 1.5% @ 25°C
Tolerance (digit 12 th)	"K" = -10%, +10% "J" = -5% +5% under request
Mounting	Horizontal – vertical
Maximum ripple current	100A
Max dV/dt not repetitive peak	≤ 40 V/μsec
Life	100000 H - Nominal Voltage @ 85°C
Failure Rate	300 FIT
Expected life estimation based on application conditions and our life formula	Please contact our technical service.
End life criteria	+/-10% cap

MECHANICAL SPECIFICATIONS

M6 STANDARD FEMALE STYLE



M6 LONG FEMALE STYLE

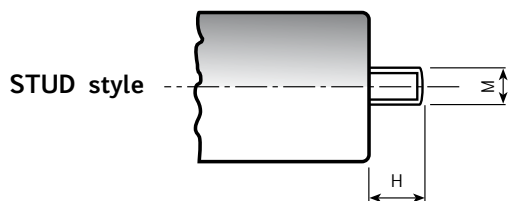
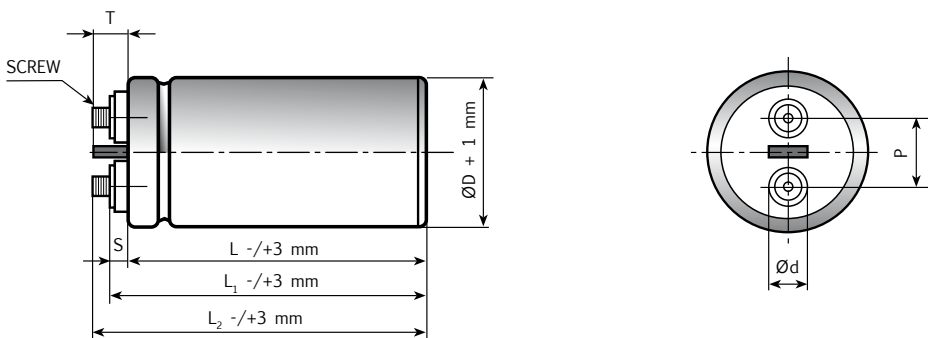


Diagram of dimensions (unit=mm)

K32 TYPE -40°C +85°C

M8 MALE STYLE

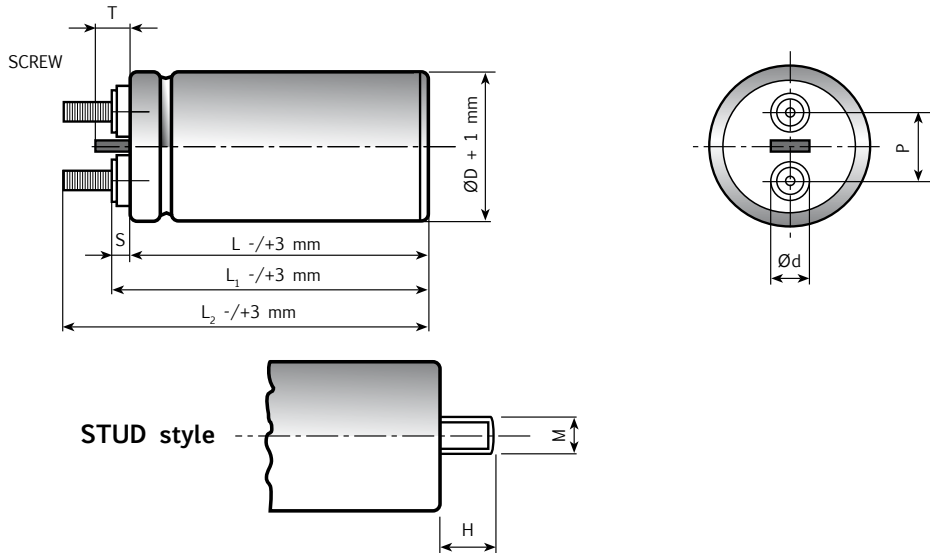


Diagram of dimensions (unit=mm)

ØD	d	P	M	H	T	L ₁ - L	L ₂ - L	L ₂ - L ₁
75 male	22.20	31.8	M12	16	11	9	29	20
85 male	22.20	31.8	M12	16	11	9	29	20
75 female M6	22.20	31.8	M12	16	11	9	Not defined	
85 female M6	22.20	31.8	M12	16	11	9	Not defined	
75 female M6 long	22.20	31.8	M12	16	11	9	14	5
85 female M6 long	22.20	31.8	M12	16	11	9	14	5

K32 TYPE STANDARD RATINGS

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	I _r a.c. A max 10K Hz 40°C	I _r a.c. A max 10K Hz 60°C	I _r a.c. A max 10KHz 75°C	dV/dt V/μsec	I _{pk} A	PART NUMBER Termination digit excluded
450	75x120	1.8	35	5.2	61	46	29	7.0	3146	K32600451_KOJ120
550	75x140	1.9	35	4.6	63	48	30	6.3	3465	K32600551_KOJ140
600	85x120	1.9	40	4.4	64	49	31	7.0	4194	K32600601_KOL120
650	75x155	2.0	35	4.1	65	49	31	6.3	4095	K32600651_KOJ155
750	85x140	2.3	40	3.9	63	47	30	6.3	4725	K32600751_KOL140
850	85x155	2.4	40	3.4	65	50	31	6.3	5355	K32600851_KOL155
1000	85x155	2.4	40	3.4	65	50	31	6.3	5670	K32600102_KOL155*

**RATED
VOLTAGE
VDC**

600V

***Notes: Not available by 5% of tolerances.**

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	I _r a.c. A max 10K Hz 40°C	I _r a.c. A max 10K Hz 60°C	I _r a.c. A max 10KHz 75°C	dV/dt V/μsec	I _{pk} A	PART NUMBER Termination digit excluded
350	75x120	1.8	35	5.2	61	46	29	8.2	2854	K32700351_KOJ120
420	75x140	1.9	35	4.6	63	48	30	7.4	3087	K32700421_KOJ140
450	85x120	1.7	40	4.4	69	52	33	8.2	3670	K32700451_KOL120
500	75x155	1.7	35	4.1	71	54	34	7.4	3675	K32700501_KOJ155
550	85x140	1.6	40	3.9	76	57	36	7.4	4043	K32700551_KOL140
600	85x155	1.8	40	3.4	76	57	36	7.4	4410	K32700601_KOL155

**RATED
VOLTAGE
VDC**

700V

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	I _r a.c. A max 10K Hz 40°C	I _r a.c. A max 10K Hz 60°C	I _r a.c. A max 10KHz 75°C	dV/dt V/μsec	I _{pk} A	PART NUMBER Termination digit excluded
220	75x120	2.3	35	5.2	54	41	26	9.3	2050	K32900221_KOJ120
270	75x140	2.0	35	4.6	63	48	30	8.4	2268	K32900271_KOJ140
300	75x155	2.0	35	4.1	65	49	31	8.4	2520	K32900301_KOJ155
300	85x120	2.0	40	4.4	69	52	33	9.3	2796	K32900301_KOL120
350	85x140	2.1	40	3.9	66	50	32	8.4	2940	K32900351_KOL140
350	75x155	2.1	35	4.1	65	49	31	8.4	2940	K32900351_KOJ155
440	85x155	2.0	40	3.4	71	54	34	8.4	3696	K32900441_KOL155
500	85x155	1.9	40	3.4	74	56	35	8.4	4200	K32900501_KOL155

**RATED
VOLTAGE
VDC**

900V

K32 TYPE STANDARD RATINGS

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	Ir a.c. A max 10K Hz 40°C	Ir a.c. A max 10K Hz 60°C	Ir a.c. A max 10KHz 75°C	dV/dt V/μsec	I pk A	PART NUMBER Termination digit excluded
150	75x120	2.4	35	5.2	53	40	25	10.6	1584	K32111151_KOJ120
220	75x140	2.3	35	4.6	56	43	27	9.6	2112	K32111221_KOJ140
220	85x120	2.4	40	4.4	60	45	28	10.6	2323	K32111221_KOL120
250	75x155	2.3	35	4.1	62	47	30	9.6	2400	K32111251_KOJ155
300	85x140	2.5	40	3.9	61	46	29	9.6	2880	K32111301_KOL140
380	85x155	3.0	40	3.4	58	44	28	9.6	3552	K32111381_KOL155

**RATED
VOLTAGE
VDC**

1100V

Cap. μF	Ø x L Mm	ESR mΩ 10 KHz	ESL nH	Rth °C/W	Ir a.c. A max 10K Hz 40°C	Ir a.c. A max 10K Hz 60°C	Ir a.c. A max 10KHz 75°C	dV/dt V/μsec	I pk A	PART NUMBER Termination digit excluded
100	75x120	2.4	35	5.2	53	40	25	12.8	1276	K32131101_KOJ120
150	75x140	2.5	35	4.6	55	42	26	11.6	1740	K32131151_KOJ140
150	85x120	2.5	40	4.4	56	42	27	12.8	1914	K32131151_KOL120
170	75x155	2.5	35	4.1	58	44	28	11.6	1972	K32131171_KOJ155
200	85x140	2.6	40	3.9	58	44	28	11.6	2320	K32131201_KOL140
220	85x155	2.9	40	3.4	61	46	29	11.6	2552	K32131221_KOL155

**RATED
VOLTAGE
VDC**

1300V

APPLICATIONS

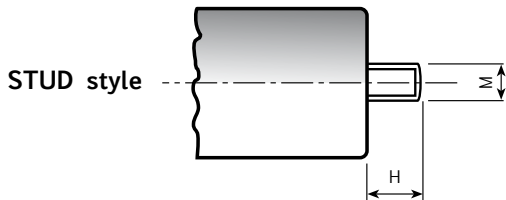
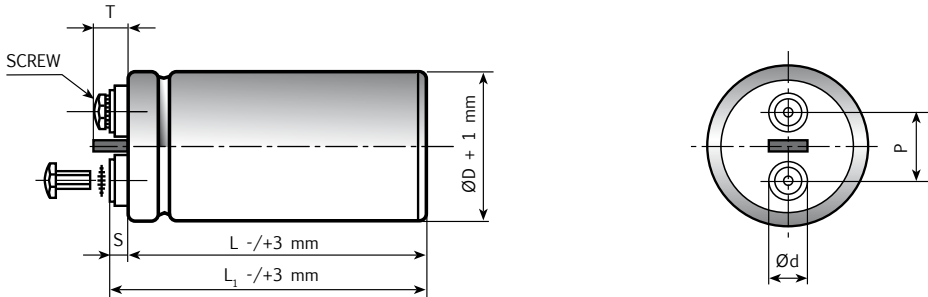
Designed for professional power electronics.

GENERAL INFORMATION

Reference	IEC 61071-1
IEC climatic	40/85/21 IEC 68-1
Storage temperature	-40 to +85°C
Temperature range	-40 to +70°C
Case	Aluminium case with or without stud M12
Maximum screw torque strength for stud M12	8 Nm
Deck	Plastic deck UL94 (V0)
Insert style of deck.	High current M6 female terminals, M8 male terminals
Maximum screw torque strength for insert.	3Nm x M6, 6Nm x M8,
Dielectric	Self healing polypropylene film
Filling	Self-extinguishing (V0) polyurethane resin
Surge voltage between terminals	X1.5 10sec 25°C
Test voltage terminal to case	4KV 50Hz for 2 sec
Capacitance deviation range temperature	+/- 1.5% @ 25°C
Tolerance	-10%, +10%
Mounting	Horizontal – vertical
Maximum ripple current	100A
Max dV/dt not repetitive peak	≤ 40 V/μsec
Life	100000 H - Nominal Voltage @ 70°C
Failure Rate	300 FIT
Expected life estimation based on application conditions and our life formula	Please contact our technical service.
End life criteria	+/-10% cap

MECHANICAL SPECIFICATIONS

M6 STANDARD FEMALE STYLE



M6 LONG FEMALE STYLE

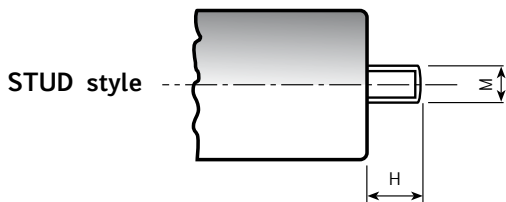
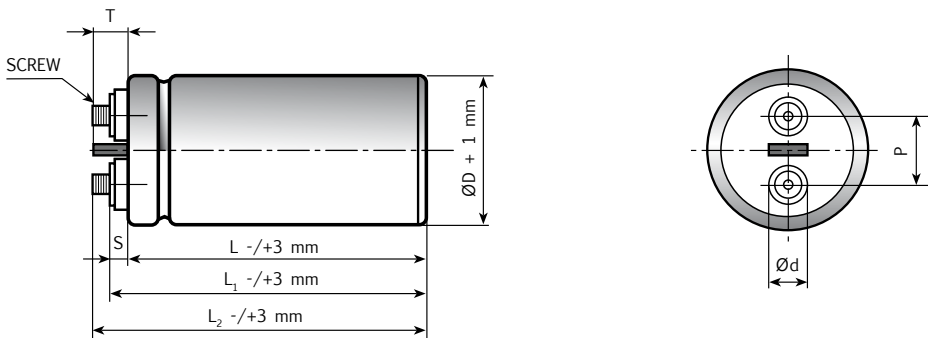


Diagram of dimensions (unit=mm)

K34 TYPE -40°C +70°C

MECHANICAL SPECIFICATIONS

M8 MALE STYLE

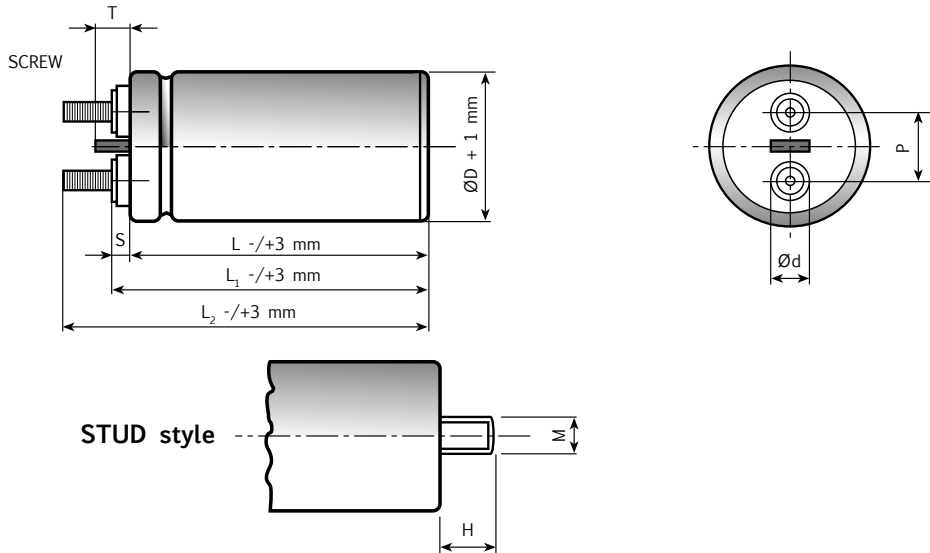


Diagram of dimensions (unit=mm)

ØD	d	P	M	H	T	L ₁ - L	L ₂ - L	L ₂ - L ₁
75 male	22.20	31.8	M12	16	11	9	29	20
85 male	22.20	31.8	M12	16	11	9	29	20
75 female M6	22.20	31.8	M12	16	11	9	Not defined	
85 female M6	22.20	31.8	M12	16	11	9	Not defined	
75 female M6 long	22.20	31.8	M12	16	11	9	14	5
85 female M6 long	22.20	31.8	M12	16	11	9	14	5

K34 TYPE STANDARD RATINGS

Cap. μF	$\varnothing \times L$ Mm	ESR $\text{m}\Omega$ 10 KHz	ESL nH	Rth $^{\circ}\text{C}/\text{W}$	Ir a.c. A max 10K Hz 25 $^{\circ}\text{C}$	Ir a.c. A max 10K Hz 45 $^{\circ}\text{C}$	Ir a.c. A max 10KHz 60 $^{\circ}\text{C}$	dV/dt V/ μsec	I pk A	PART NUMBER Termination digit excluded
350	75x120	2.2	35	5.2	49	40	25	6.3	2230	K34900351_KOJ120
430	75x140	2.2	35	4.6	52	43	27	6.2	2709	K34900431_KOJ140
450	85x120	2.2	40	4.4	53	44	28	6.3	2867	K34900451_KOL120
500	75x155	2.2	35	4.1	55	45	29	6.2	3150	K34900501_KOJ155
570	85x140	2.3	40	3.9	57	46	29	6.2	3591	K34900571_KOL140
600	85x140	2.3	40	3.9	57	46	29	6.2	3780	K34900601_KOL140
650	85x155	2.3	40	3.4	61	50	31	6.2	4095	K34900651_KOL155
700	85x155	2.3	40	3.4	61	50	31	6.2	4347	K34900701_KOL155

**RATED
VOLTAGE
VDC**

900V

GENERAL WARNING

Information and data contained in the section “Technical Information” must be considered as a completing part of each family type or capacitor.

Before using a **Kendeil** capacitor in any application, please read carefully the related specifications included in the catalogue.

An improper installation or not respecting parameters limits might cause damage to the components, their characteristics modification and a decrease of their reliability and useful life.

Products manufactured by **Kendeil** are made with maximum care, in order to result free of defects in design, materials and workmanship, according with adequate specifications and international standard requirements.

DISCLAIMER

Cooperation between Customers and **Kendeil** is basically precious in order to solve problems or when a failure occurs. In case of complaint you might have, please forward the following information along with an immediate communication of the failure.

Only upon previous agreement with **Kendeil**, you could send a detailed description of failure, indicating operative condition and type of application, number of defective pieces, eventually expressed in percent on whole quantity used. It is mandatory to know the original batch of goods as printed on the capacitor sleeve or labeled on the box, also let us know the delivery date and others relevant data from the billing documents. Samples of defective products should be sent to Kendeil for analysis, packed in order to prevent additional damages different from the ones detected.

Data sheets specifications are referred to a fairly large number of components and do not constitute a guarantee of characteristics or properties in the legal sense.

However, agreement on these specifications does not mean that the Customer may not claim for replacement of individual defective capacitors within the terms of delivery; **Kendeil** will not assume any further liability beyond the replacement of defective capacitors. This applies in particular to any further consequences of component failure as better specified further in this section.

A single failure among a delivered batch of capacitors should not be meaningful of poor reliability of the whole production batch, but should be understood to have reached incidentally the end of life within the failure rate defined for each series type.

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