

# K85 TYPE -40°C +105°C 8000H

RoHS Compliant

- Design optimized for high ripple current and very long life application.
- Surge-proof capacitor in aluminium can with insulation sleeve.
- Snap in terminals for PCB mounting.

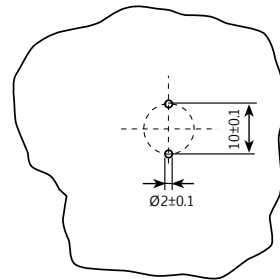
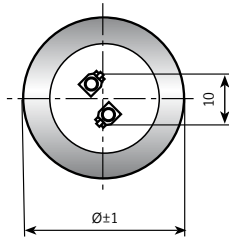
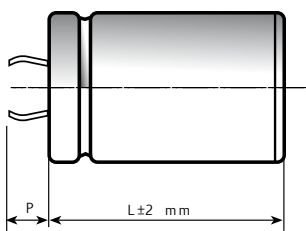
## APPLICATIONS

Designed for professional application.  
Ultra compact UPS, Solar inverters, High ripple current converters, Motor drives.

Dimensions in mm.

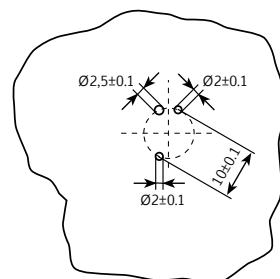
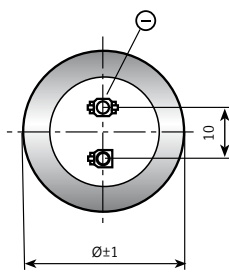
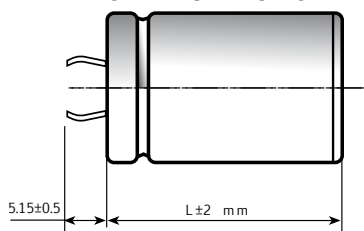
Circuit board hole dimensions

### 2 PIN CAPACITOR

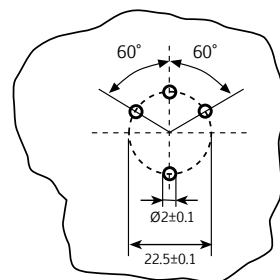
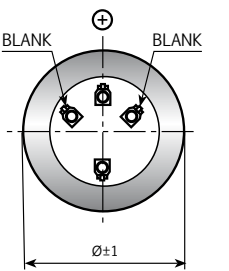
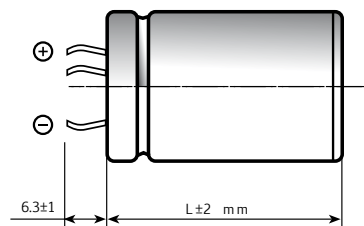


PIN LENGTH  
P 4.5 short pin - P 6.3 long pin (standard)

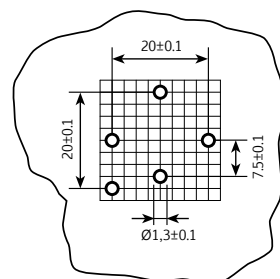
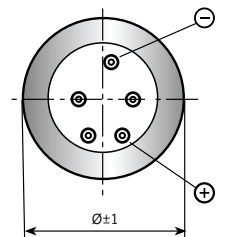
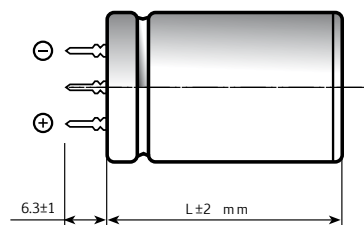
### 3 PIN CAPACITOR



### 4 PIN CAPACITOR



### 5 PIN CAPACITOR



Ø	22	25	30	35	40	45	50
2 PIN	●	●	●	●	●		
3 PIN		●	●	●			
4 PIN				●	●	●	●
5 PIN					●		

On demand, only for capacitors with diam ≥ 35mm: octagonal can shape for long stress vibration applications.

## SPECIFICATIONS

<b>Temperature Range</b>	Operating : -40°C +105°C Storage : Preferably below +25°C, not exceeding +40°C								
<b>Rated Voltage Range (V<sub>r</sub>)</b>	from 350V to 450V DC								
<b>Surge Voltage (V<sub>p</sub>)</b>	V <sub>p</sub> = 1.10 V <sub>r</sub>								
<b>Rated Capacitance Range</b>	from 100 µF to 1000 µF								
<b>Capacitance Tolerance</b>	±20% at 100 Hz, 20°C [M class IEC-62]								
<b>Leakage Current (I<sub>L</sub>) (mA, 5 min, 20°C)</b>	max I <sub>L</sub> = 0.006 C <sub>r</sub> V <sub>r</sub> + 4 µA								
<b>Ripple current (I<sub>r</sub>)</b>	Refer to table at 105°C and 100Hz :								
	FREQUENCY	50Hz	100Hz	500Hz	1000Hz	>10kHz			
	MULTIPLIER	0.88	1.0	1.45	1.5	1.55			
	AMBIENT TEMP	35°C	45°C	55°C	65°C	75°C	85°C	95°C	105°C
	MULTIPLIER	3.0	2.8	2.6	2.4	2.2	1.8	1.5	1
<b>Insulation Resistance</b>	At 100V DC for 1 min is >100 MΩ across insulating sleeve and terminals.								
<b>Vibration Resistance</b>	Frequency range : 10 Hz to 55 Hz, amplitude 0.75 mm max acceleration 10g for 3x2 h								
<b>Withstand voltage (between terminals bundled and plate)</b>	2500 VAC for 1 min								
<b>Life test (105°C, V<sub>n</sub>, I<sub>r</sub> applied)</b>	After 3,000 hours application of rated voltage at 105°C capacitors meet characteristics aside	Cap change	≤ 10%						
		tan δ	≤ 130%						
		Leakage current (I <sub>L</sub> )	< initial limit						
		Impedance (Z)	≤ 130%						
<b>Shelf life</b>	After leaving capacitors under no load for 500 hours at 105°C, when restored at 20°C meet specifications aside	Cap change	≤ ±15%						
		tan δ	≤ 150%						
		Leakage current (I <sub>L</sub> )	< initial limit						
<b>Useful life (105°C, V<sub>n</sub>, I<sub>r</sub> applied)</b>	≥ 8.000 h at 105°C	Cap change	≤ 20%						
		tan δ	≤ 200%						
		Leakage current (I <sub>L</sub> )	< initial limit						
		Impedance (Z)	≤ 200%						
<b>Failure percentage</b>	≤ 1% (during useful life)								
<b>Failure rate</b>	≤ 40 fit (40 10 <sup>-9</sup> /h)								
<b>Self inductance</b>	Approx. 15 nH								
<b>Damp heat test (V<sub>n</sub> applied, 2000 hours, 85% RH)</b>	Stable electrical parameters in humidity ambient condition 85°C								
<b>Electrolyte</b>	All the capacitors of this series have self-extinguishing electrolyte in accordance with IEC EN 60695-11-10								
<b>Marking information</b>	minus pole band aside within an angle of 41° ± 25°								
<b>Reference standards</b>	CECC 30.300 IEC 60384-4 LONG LIFE GRADE								

## K85 TYPE STANDARD RATINGS

**RATED  
VOLTAGE  
VDC**

**350V**

Cap $\mu\text{F}$	$\varnothing \times L$ mm	Tan $\delta$ MAX 100 Hz 20°C	ESR TYP $\text{m}\Omega$ 100 Hz 20°C	Z TYP $\text{m}\Omega$ 10 kHz 20°C	I <sub>r</sub> a.c. A max 100 Hz 105°C	PART NUMBER termination digit excluded
180	25x30	0.06	240	136	1.35	K85350181_PM0C030
220	25x35	0.06	199	121	1.57	K85350221_PM0C035
220	30x30	0.06	209	128	1.64	K85350221_PM0D030
330	25x45	0.06	136	83	2.10	K85350331_PM0C045
330	30x35	0.06	144	86	2.07	K85350331_PM0D035
390	25x50	0.06	134	83	2.29	K85350391_PM0C050
390	30x35	0.06	140	86	2.11	K85350391_PM0D035
390	30x40	0.06	140	86	2.46	K85350391_PM0D040
390	35x30	0.06	138	85	2.33	K85350391_PM0E030
470	25x55	0.07	96	77	2.59	K85350471_PM0C055
470	35x35	0.07	96	78	2.51	K85350471_PM0E035
560	30x55	0.07	78	48	3.10	K85350561_PM0D055
560	35x40	0.07	88	54	2.98	K85350561_PM0E040
680	35x45	0.07	75	45	3.20	K85350681_PM0E045
680	35x50	0.07	74	44	3.32	K85350681_PM0E050
720	35x50	0.07	67	42	3.45	K85350721_PM0E050
820	35x55	0.07	63	39	3.78	K85350821_PM0E055
1000	35x60	0.08	60	39	4.00	K85350102_PM0E060

**RATED  
VOLTAGE  
VDC**

**400V**

Cap $\mu\text{F}$	$\varnothing \times L$ mm	Tan $\delta$ MAX 100 Hz 20°C	ESR TYP $\text{m}\Omega$ 100 Hz 20°C	Z TYP $\text{m}\Omega$ 10 kHz 20°C	I <sub>r</sub> a.c. A max 100 Hz 105°C	PART NUMBER termination digit excluded
150	25x30	0.06	291	160	1.23	K85400151_PM0C030
180	25x35	0.06	240	136	1.44	K85400181_PM0C035
180	30x30	0.06	240	136	1.53	K85400181_PM0D030
220	25x45	0.06	184	102	1.81	K85400221_PM0C045
220	30x35	0.06	196	110	1.79	K85400221_PM0D035
270	25x50	0.06	185	95	1.88	K85400271_PM0C050
270	30x35	0.06	170	98	1.91	K85400271_PM0D035
270	35x30	0.06	162	92	2.07	K85400271_PM0E030
330	25x55	0.06	121	67	2.41	K85400331_PM0C055
330	30x40	0.06	152	84	2.12	K85400331_PM0D040
330	35x35	0.06	153	89	2.24	K85400331_PM0E035
390	30x50	0.06	103	55	2.71	K85400391_PM0D050
390	35x40	0.06	114	63	2.73	K85400391_PM0E040
470	30x55	0.07	97	52	3.01	K85400471_PM0D055
470	35x45	0.07	95	52	3.07	K85400471_PM0E045
560	35x50	0.07	85	45	3.20	K85400561_PM0E050
680	35x55	0.07	75	45	3.51	K85400681_PM0E055

## K85 TYPE STANDARD RATINGS

**RATED  
VOLTAGE  
VDC**

**420V**

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10 kHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER termination digit excluded
120	25x30	0.06	312	181	1.19	K85420121_PM0C030
150	25x35	0.06	253	146	1.40	K85420151_PM0C035
180	30x30	0.06	240	136	1.53	K85420181_PM0D030
220	25x45	0.06	184	102	1.81	K85420221_PM0C045
220	30x35	0.06	196	110	1.79	K85420221_PM0D035
250	25x50	0.06	170	92	1.96	K85420251_PM0C050
250	30x35	0.06	185	103	1.83	K85420251_PM0D035
250	35x30	0.06	172	96	2.00	K85420251_PM0E030
270	30x40	0.06	152	84	2.12	K85420271_PM0D040
330	25x55	0.06	121	67	2.41	K85420331_PM0C055
330	35x35	0.06	153	89	2.24	K85420331_PM0E035
390	30x55	0.06	103	55	2.91	K85420391_PM0D055
390	35x40	0.06	114	63	2.71	K85420391_PM0E040
470	35x50	0.07	97	45	3.15	K85420471_PM0E050
560	35x55	0.07	85	45	3.30	K85420561_PM0E055
680	35x60	0.07	75	45	3.54	K85420681_PM0E060

**RATED  
VOLTAGE  
VDC**

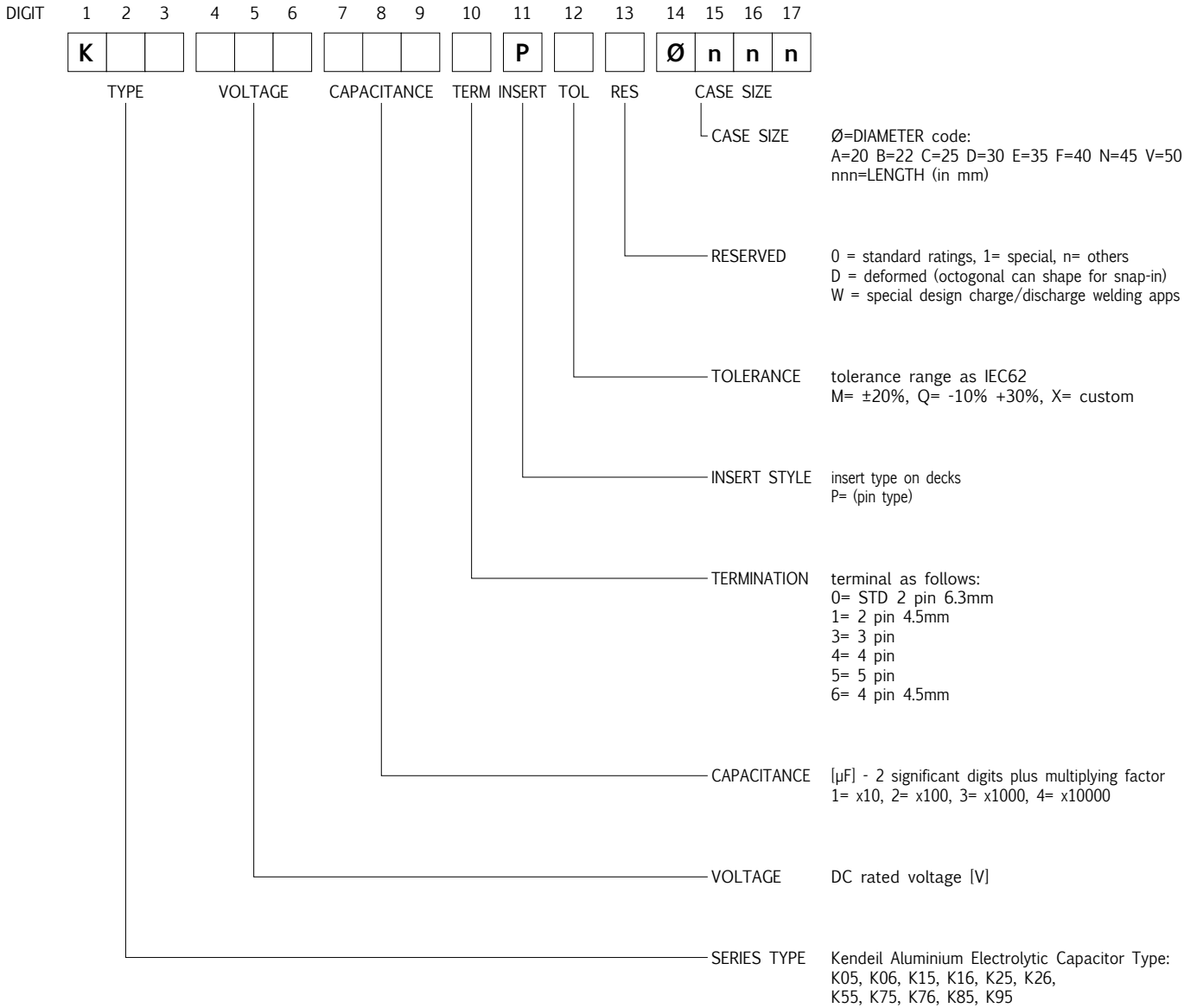
**450V**

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10 kHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER termination digit excluded
100	25x30	0.06	388	214	1.07	K85450101_PM0C030
120	25x35	0.06	324	178	1.24	K85450121_PM0C035
150	25x40	0.06	250	142	1.48	K85450151_PM0C040
150	30x30	0.06	260	144	1.45	K85450151_PM0D030
150	30x40	0.06	250	142	1.66	K85450151_PM0D040
180	25x45	0.06	212	119	1.68	K85450181_PM0C045
180	30x35	0.06	223	126	1.67	K85450181_PM0D035
220	25x50	0.06	183	101	1.89	K85450221_PM0C050
220	30x40	0.06	197	110	1.97	K85450221_PM0D040
220	35x30	0.06	185	104	1.92	K85450221_PM0E030
270	30x45	0.06	159	86	2.21	K85450271_PM0D045
270	35x35	0.06	166	95	2.12	K85450271_PM0E035
330	30x50	0.06	127	68	2.53	K85450331_PM0D050
330	35x40	0.06	127	68	2.57	K85450331_PM0E040
390	30x55	0.06	110	59	2.82	K85450391_PM0D055
390	35x45	0.06	119	63	2.77	K85450391_PM0E045
470	35x50	0.06	106	58	3.06	K85450471_PM0E050
560	35x55	0.07	91	54	3.30	K85450561_PM0E055
560	35x60	0.07	91	54	3.42	K85450561_PM0E060
680	35x77	0.07	81	41	4.07	K85450681_PM0E077

PLEASE TO CONTACT OUR TECHNICAL SERVICE FOR MORE INFORMATION.

## PART NUMBER SYSTEM FOR SNAP-IN TYPE CAPACITORS

New PART-NUMBER CODE in use since Sep 2010. Total length is 17 digits.  
Please see examples below and have a reference code from the standard ratings capacitors pages.



### EXAMPLES

K	0	5	4	5	0	4	7	1	0	P	M	0	E	0	5	0
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K05 450V 470µF, standard pin, ±20%, 35x50

Specifications subject to change without notice