

- Surge-proof capacitor in aluminium can with insulation sleeve.
- Snap in terminals for PCB mounting.
- Design optimized for high ripple current applications.

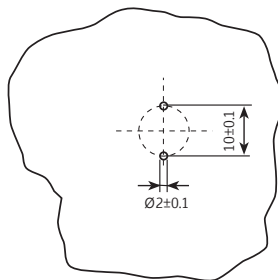
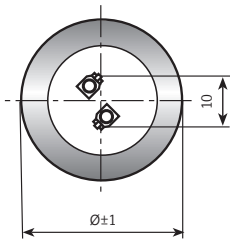
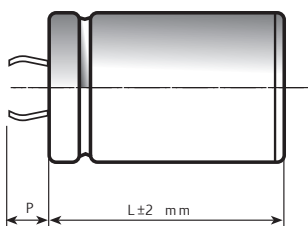
## APPLICATIONS

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

Dimensions in mm.

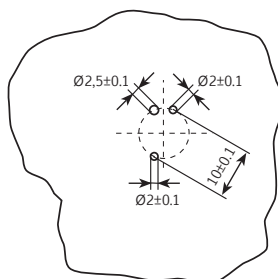
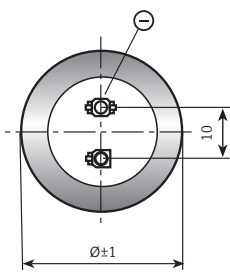
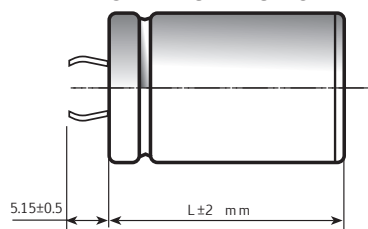
Circuit board hole dimensions

### 2 PIN CAPACITOR

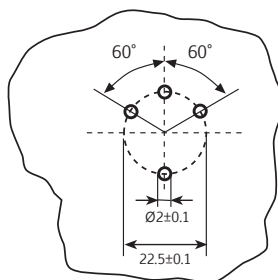
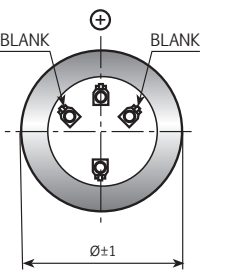
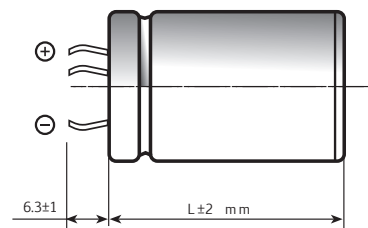


PIN LENGTH  
P 4.5 short pin - P 6.3 long pin (standard)

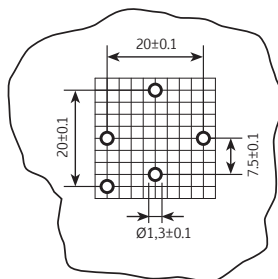
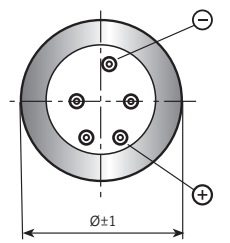
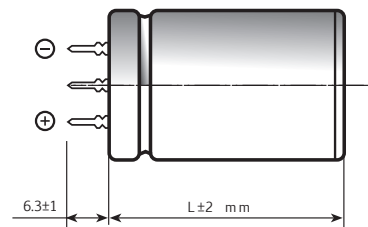
### 3 PIN CAPACITOR



### 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	[Environmental classification 40/85/56 IEC-68]
<b>Rated Voltage Range (V<sub>r</sub>)</b>	from 400V to 500V 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 820 µF to 2200 µF	
<b>Capacitance Tolerance</b>	±20% at 100 Hz, 20°C [M class IEC-62]	
<b>Leakage Current (I<sub>L</sub>)</b> (mA, 5 min, 20°C)	max I <sub>L</sub> = 0.003 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 500 Hz 1000Hz >10kHz
	MULTIPLIER	0.88 1.0 1.45 1.50 1.55
	AMBIENT TEMP.	35°C 45°C 55°C 65°C 75°C 85°C 95°C 105°C 110°C
	MULTIPLIER	3.0 2.8 2.6 2.4 2.2 1.8 1.5 1.0 0.5
	Maximum internal temperature	110°C
<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</b> (between terminals bundled and plate)	2500 VAC for 1 min	
<b>Life test</b>	After 2,000 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</b> (V <sub>n</sub> , Temp rated I ripple applied)	> 250000 h at 40°C > 8000 h at 105°C	
<b>Failure percentage</b> <b>Failure rate</b>	≤ 1% (during useful life) ≤ 40 fit (40 10 <sup>-9</sup> /h)	
<b>Self inductance</b>	Approx. 20 nH	
<b>Damp heat test</b> (V <sub>n</sub> applied, 2000 hours, 85% RH)	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	

## K25 TYPE STANDARD RATINGS

Cap $\mu\text{F}$	$\varnothing \times L$ mm	Tan $\delta$ MAX 100 Hz 20°C	ESR TYP m $\Omega$ 100 Hz 20°C	Z TYP m $\Omega$ 10 kHz 20°C	I <sub>r</sub> a.c. A max 100 Hz 105°C	PART NUMBER termination digit excluded
1200	40x77	0.10	89	64	3.6	K25400122_PM0F077
1200	45x60	0.10	89	64	3.6	K25400122_PM0N060
1500	40x97	0.10	75	55	4.8	K25400152_PM0F097
1500	45x77	0.10	75	55	4.7	K25400152_PM0N077
1500	50x60	0.10	75	55	4.4	K25400152_PM0V060
1800	45x97	0.10	69	60	5.6	K25400182_PM0N097
1800	50x77	0.10	69	60	5.5	K25400182_PM0V077
2200	45x105	0.10	47	40	6.1	K25400222_PM0N105
2700	50x105	0.10	37	30	6.5	K25400272_PM0V105

**RATED  
VOLTAGE  
VDC**

**400V**

Cap $\mu\text{F}$	$\varnothing \times L$ mm	Tan $\delta$ MAX 100 Hz 20°C	ESR TYP m $\Omega$ 100 Hz 20°C	Z TYP m $\Omega$ 10 kHz 20°C	I <sub>r</sub> a.c. A max 100 Hz 105°C	PART NUMBER termination digit excluded
820	35x77	0.10	104	85	3.0	K25420821_PM0E077
1000	40x60	0.10	99	74	3.6	K25420102_PM0F060
1200	40x77	0.10	94	64	3.7	K25420122_PM0F077
1200	45x60	0.10	94	64	3.6	K25420122_PM0N060
1500	40x97	0.10	75	55	4.6	K25420152_PM0F097
1500	45x77	0.11	75	55	4.5	K25420152_PM0N077
1500	50x60	0.10	75	55	4.4	K25420152_PM0V060
1800	45x97	0.11	69	51	5.6	K25420182_PM0N097
1800	50x77	0.10	69	51	5.5	K25420182_PM0V077
2200	45x105	0.12	47	40	6.1	K25420222_PM0N105
2700	50x105	0.10	37	30	6.5	K25420272_PM0V105

**RATED  
VOLTAGE  
VDC**

**420V**

Cap $\mu\text{F}$	$\varnothing \times L$ mm	Tan $\delta$ MAX 100 Hz 20°C	ESR TYP m $\Omega$ 100 Hz 20°C	Z TYP m $\Omega$ 10 kHz 20°C	I <sub>r</sub> a.c. A max 100 Hz 105°C	PART NUMBER termination digit excluded
820	40x60	0.10	104	85	3.3	K25450821_PM0F060
1000	40x77	0.10	99	74	3.8	K25450102_PM0F077
1000	45x60	0.10	99	74	3.6	K25450102_PM0N060
1200	40x97	0.10	94	64	4.6	K25450122_PM0F097
1200	45x77	0.10	94	64	4.3	K25450122_PM0N077
1200	50x60	0.10	94	64	4.2	K25450122_PM0V060
1500	45x97	0.11	75	55	5.1	K25450152_PM0N097
1500	50x77	0.10	75	55	5.3	K25450152_PM0V077
1800	45x105	0.11	69	51	5.1	K25450182_PM0N105
2200	50x105	0.10	47	40	6.2	K25450222_PM0V105

**RATED  
VOLTAGE  
VDC**

**450V**

## K25 TYPE STANDARD RATINGS

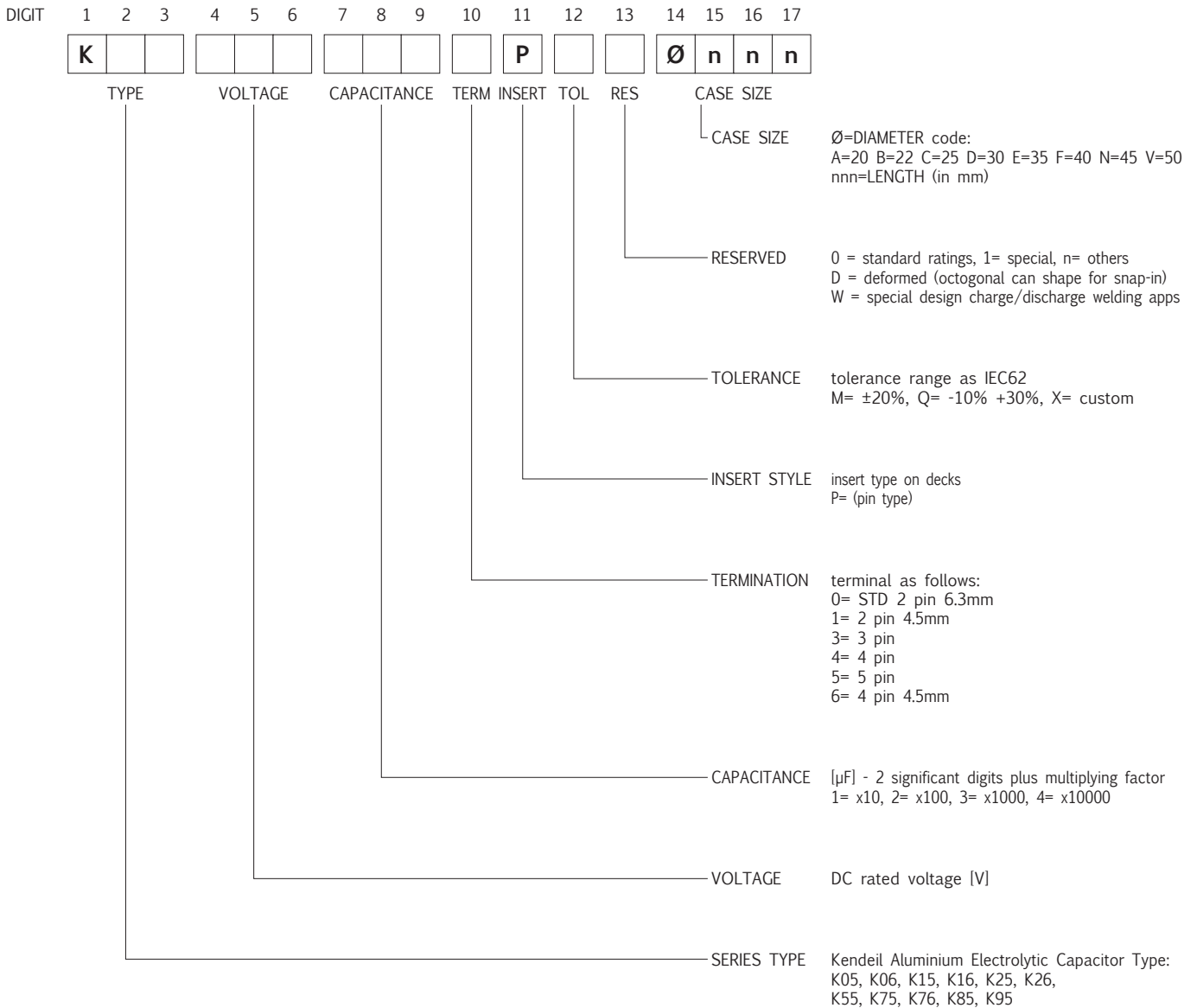
Cap $\mu\text{F}$	$\varnothing \times L$ Mm	Tan $\delta$ MAX 100 Hz 20°C	ESR TYP $m\Omega$ 100 Hz 20°C	Z TYP $m\Omega$ 10KHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER Termination digit excluded
220	35x40	0.12	390	280	1.2	K25500221_PM0E040
330	35x50	0.12	280	180	1.9	K25500331_PM0E050
470	40x50	0.12	187	153	2.1	K25500471_PM0F050
470	35x60	0.12	187	153	2.1	K25500471_PM0E060
560	35x77	0.12	176	134	2.4	K25500561_PM0E077
560	40x60	0.12	176	134	2.4	K25500561_PM0F060
680	40x77	0.12	165	120	2.8	K25500681_PM0F077
820	40x97	0.12	138	108	3.5	K25500821_PM0F097
1000	45x97	0.12	115	95	4.1	K25500102_PM0N097
1200	45x105	0.12	96	64	4.5	K25500122_PM0N105

**RATED  
VOLTAGE  
VDC**

**500V**

## 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