K06 TYPE -40°C +85°C 5000H

RoHS Compliant

- **Surge-proof capacitor in aluminium can with insulation sleeve.**
- **Safety vent at bottom case or aside case.**
- **Snap in terminals for PCB mounting.**
- **Very high CV for unit volume with low ESR.**
- **High ripple current, in small dimensions case size.**
- **Operation up to 105°C permissible.**

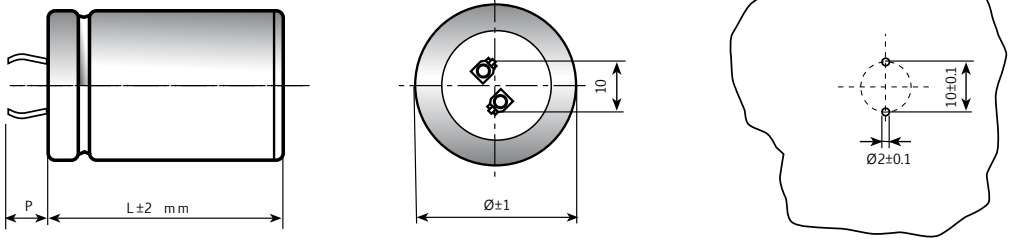
APPLICATIONS

Professional switch mode power supplies. Professional power electronics.

Dimensions in mm.

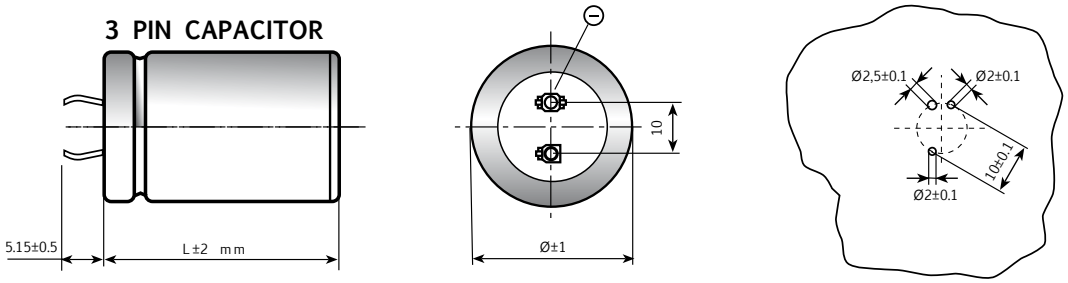
Circuit board hole dimensions

2 PIN CAPACITOR

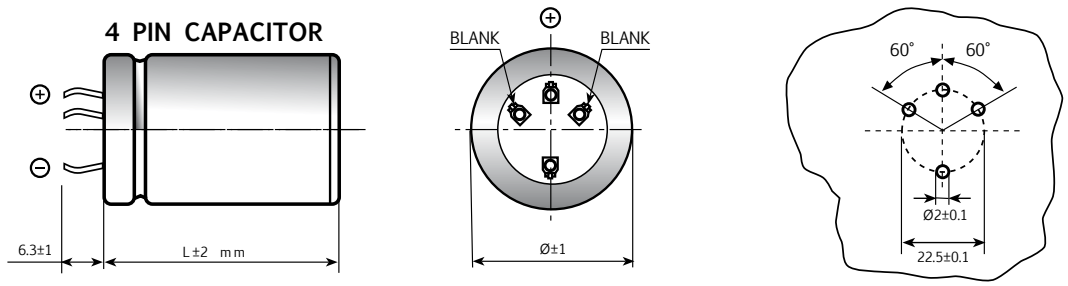


PIN LENGTH
P 4.5 short pin - P 6.3 long pin (standard)

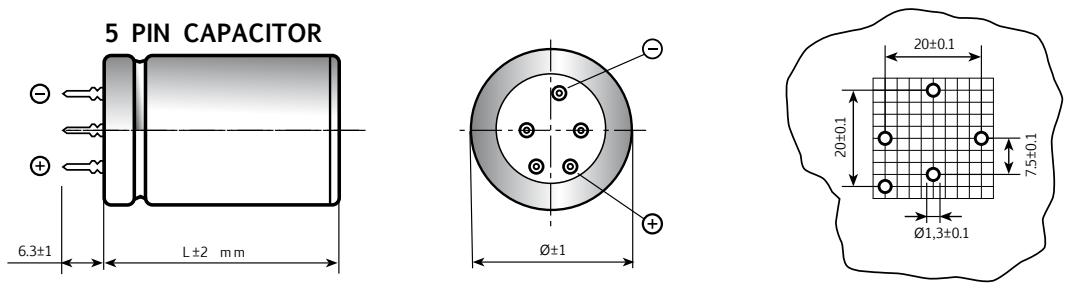
3 PIN CAPACITOR



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.

Temperature Range	Operating: -40°C +85°C [Environmental classification 40/85/56 IEC-68] Storage : Preferably below +25°C, not exceeding +40°C
Rated Voltage Range (V_r)	from 16V to 600V DC
Surge Voltage (V_p)	$V_p = 1.05\ V_r$ (V_r > 450V DC) $V_p = 1.15\ V_r$ ($V_r \leq$ 250V DC) $V_p = 1.10\ V_r$ (V_r > 250V DC)
Rated Capacitance Range	from 68 µF to 47000 µF
Capacitance Tolerance	±20% at 100 Hz, 20°C [M class IEC-62]
Leakage Current (I_L) (mA, 5 min, 20°C)	max $I_L = 0.006\ C_r\ V_r + 4$ µA Kendeil product limit : $I_L = 0.003\ C_r\ V_r$ At 85°C max $I_L = 0.04\ C_r\ V_r$ µA
Ripple current (I_r)	Refer to table at 85°C and 100Hz For different temperature and frequency multiplier must be used as follows:

FREQUENCY	50Hz	100Hz	500 Hz	1000Hz	>10kHz
MULTIPLIER (0-25V V_r DC)	0.91	1.0	1.15	1.15	1.2
MULTIPLIER (40-100V V_r DC)	0.88	1.0	1.35	1.40	1.45
MULTIPLIER (160-450V V_r DC)	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
MULTIPLIER	2.2	2.1	1.8	1.6	1.4	1.0	0.5

Maximum internal temperature 98°C

Insulation Resistance	At 100V DC for 1 min is >100 MΩ across insulating sleeve and terminals.	
Vibration Resistance	Frequency range: 10 Hz to 500 Hz, amplitude 0.75 mm max acceleration 10g for 3x2 h	
Withstand voltage (between terminals bundled and plate)	2500 VAC for 1 min	
Life test	After 2,000 hours application of rated voltage at 85°C capacitors meet characteristics aside	
	for all sizes with V ≤ 100V; all voltage capacitors with diameter ≤ 35mm	Cap change ≤ ±20% tan δ ≤ 200% Leakage current (I_L) < initial limit Impedance (Z) ≤ 200%
	for V ≥ 160V and for capacitors with diameter ≥ 40mm	Cap change ≤ ±10% tan δ ≤ 130% Leakage current (I_L) < initial limit Impedance (Z) ≤ 130%
Shelf life	After leaving capacitors under no load for 500 hours at 85°C, when restored at 20°C meet specifications aside	Cap change ≤ ±15% tan δ ≤ 150% Leakage current (I_L) < initial limit
Useful life (Vn, Temp rated I ripple applied)	> 200,000 h at 40°C > 5,000 h at 85°C	
Failure percentage Failure rate	≤ 1% (during useful life) ≤ 25 fit (25 10^{-9}/h) ($V_r \leq$ 160V DC) ≤ 33 fit (33 10^{-9}/h) (V_r > 160V DC)	
Self inductance	Approx. 20 nH	
Damp heat test (Vn applied, 2000 hours, 85% RH)	Stable electrical parameters in humidity ambient condition 85°C	
Electrolyte	All the capacitors of this series have self-extinguishing electrolyte in accordance with IEC EN 60695-11-10	
Marking information	minus pole band aside within an angle of 41° ± 25°	
Reference standards	CECC 30.301 - IEC 60384-4 LONG LIFE GRADE	

K06 TYPE STANDARD RATINGS

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
4700	22x30	0.30	55	40	1.5	K06016472_PM0B030	16V
6800	22x30	0.30	45	38	1.8	K06016682_PM0B030	
10000	25x30	0.40	40	35	2.4	K06016103_PM0C030	
15000	30x30	0.45	33	25	2.6	K06016153_PM0D030	
22000	30x40	0.60	27	22	3.5	K06016223_PM0D040	
22000	35x30	0.60	27	22	3.5	K06016223_PM0E030	
22000	35x40	0.60	27	22	3.5	K06016223_PM0E040	
33000	35x50	0.70	25	20	4.8	K06016333_PM0E050	
47000	35x50	0.90	22	20	5.8	K06016473_PM0E050	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
4700	22x30	0.20	53	45	1.8	K06025472_PM0B030	25V
6800	25x30	0.25	50	38	2.7	K06025682_PM0C030	
10000	25x40	0.40	40	35	3.3	K06025103_PM0C040	
10000	30x30	0.40	40	35	3.3	K06025103_PM0D030	
15000	30x40	0.45	39	28	4.1	K06025153_PM0D040	
15000	35x30	0.45	39	28	4.1	K06025153_PM0E030	
22000	35x40	0.60	30	22	5.0	K06025223_PM0E040	
33000	35x50	0.70	22	18	6.1	K06025333_PM0E050	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
3300	22x30	0.15	72	58	2.1	K06040332_PM0B030	40V
4700	25x30	0.20	50	38	2.8	K06040472_PM0C030	
6800	25x40	0.30	48	33	3.4	K06040682_PM0C040	
6800	30x30	0.30	48	33	3.4	K06040682_PM0D030	
10000	25x40	0.40	38	28	3.8	K06040103_PM0C040	
10000	30x40	0.40	39	28	4.3	K06040103_PM0D040	
10000	35x30	0.40	39	28	4.3	K06040103_PM0E030	
15000	30x40	0.45	32	22	4.0	K06040153_PM0D040	
15000	35x40	0.45	32	22	4.8	K06040153_PM0E040	
22000	35x50	0.60	28	20	5.4	K06040223_PM0E050	

K06 TYPE STANDARD RATINGS

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
2200	22x30	0.20	72	58	1.9	K06050222_PM0B030	50V
3300	25x30	0.20	48	38	2.5	K06050332_PM0C030	
4700	25x30	0.20	50	35	2.8	K06050472_PM0C030	
6800	25x40	0.30	48	28	3.2	K06050682_PM0C040	
6800	30x30	0.30	48	28	3.2	K06050682_PM0D030	
10000	30x40	0.35	31	22	3.8	K06050103_PM0D040	
10000	35x30	0.35	31	28	3.8	K06050103_PM0E030	
10000	35x40	0.35	31	28	4.1	K06050103_PM0E040	
15000	35x50	0.45	26	18	4.9	K06050153_PM0E050	
22000	40x50	0.50	25	18	7.3	K06050223_PM0F050	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
2200	25x30	0.20	79	58	2.2	K06063222_PM0C030	63V
3300	25x40	0.20	50	38	2.6	K06063332_PM0C040	
3300	30x30	0.20	50	38	2.6	K06063332_PM0D030	
4700	25x40	0.20	41	29	2.8	K06063472_PM0C040	
4700	30x40	0.20	41	29	3.5	K06063472_PM0D040	
4700	35x30	0.20	41	29	3.5	K06063472_PM0E030	
6800	30x40	0.30	35	25	3.6	K06063682_PM0D040	
6800	35x40	0.30	35	25	4.0	K06063682_PM0E040	
10000	35x50	0.35	32	23	5.8	K06063103_PM0E050	
15000	40x50	0.45	30	20	6.8	K06063153_PM0F050	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
1000	22x30	0.12	150	100	1.3	K06100102_PM0B030	100V
1000	25x30	0.12	150	100	1.6	K06100102_PM0C030	
1000	30x25	0.12	150	100	1.6	K06100102_PM0D025	
1500	30x30	0.12	105	82	2.1	K06100152_PM0D030	
2200	30x30	0.15	71	60	2.4	K06100222_PM0D030	
2200	30x40	0.15	71	60	3.1	K06100222_PM0D040	
2200	35x30	0.15	71	60	2.4	K06100222_PM0E030	
3300	30x50	0.20	48	39	4.0	K06100332_PM0D050	
3300	35x40	0.20	48	39	4.0	K06100332_PM0E040	
4700	35x50	0.20	33	26	5.6	K06100472_PM0E050	
6800	35x50	0.25	33	25	5.8	K06100682_PM0E050	

K06 TYPE STANDARD RATINGS

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
220	22x30	0.10	440	340	0.9	K06200221_PM0B030	200V
330	22x30	0.10	240	133	1.3	K06200331_PM0B030	
470	25x30	0.10	169	98	1.5	K06200471_PM0C030	
680	25x40	0.10	145	87	2.0	K06200681_PM0C040	
680	30x30	0.10	145	87	2.0	K06200681_PM0D030	
680	35x30	0.10	145	87	2.0	K06200681_PM0E030	
1000	30x40	0.10	95	63	2.6	K06200102_PM0D040	
1000	35x40	0.10	95	63	2.8	K06200102_PM0E040	
1500	35x40	0.10	70	41	2.9	K06200152_PM0E040	
1500	35x50	0.10	70	41	3.7	K06200152_PM0E050	
2200	35x50	0.10	45	33	3.90	K06200222_PM0E050	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
150	22x30	0.12	530	290	0.9	K06250151_PM0B030	250V
220	25x30	0.12	370	240	1.3	K06250221_PM0C030	
330	25x40	0.12	260	153	1.4	K06250331_PM0C040	
330	30x30	0.12	260	153	1.4	K06250331_PM0D030	
470	25x40	0.12	180	110	1.6	K06250471_PM0C040	
470	30x30	0.12	180	110	1.6	K06250471_PM0D030	
680	30x40	0.12	145	95	1.9	K06250681_PM0D040	
680	35x40	0.12	145	95	2.2	K06250681_PM0E040	
1000	35x40	0.12	98	65	2.6	K06250102_PM0E040	
1000	35x50	0.12	98	65	3.20	K06250102_PM0E050	
1500	35x50	0.15	75	43	4.00	K06250152_PM0E050	
2200	40x50	0.15	50	35	5.20	K06250222_PM0F050	

K06 TYPE STANDARD RATINGS

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
68	22x25	0.10	1405	1050	0.6	K06400680_PM0B025	400V
68	22x30	0.10	1405	1050	0.6	K06400680_PM0B030	
100	22x30	0.10	796	550	0.7	K06400101_PM0B030	
100	25x25	0.10	796	550	0.7	K06400101_PM0C025	
100	25x30	0.10	796	550	1.0	K06400101_PM0C030	
150	25x30	0.10	530	380	1.0	K06400151_PM0C030	
150	30x25	0.10	530	380	1.0	K06400151_PM0D025	
220	25x40	0.10	360	250	1.2	K06400221_PM0C040	
220	30x30	0.10	360	250	1.2	K06400221_PM0D030	
330	30x40	0.10	240	170	1.7	K06400331_PM0D040	
330	35x30	0.10	240	170	1.7	K06400331_PM0E030	
470	35x40	0.10	170	125	2.2	K06400471_PM0E040	
470	35x50	0.10	170	125	2.60	K06400471_PM0E040	
560	35x50	0.10	165	122	2.60	K06400561_PM0E050	
680	35x50	0.10	158	110	2.80	K06400681_PM0E050	
680	40x50	0.10	158	110	3.20	K06400681_PM0F050	
820	35x60	0.10	140	106	3.50	K06400821_PM0E060	
1000	35x60	0.12	103	91	4.40	K06400102_PM0E060	
1500	40x97	0.12	65	50	5.79	K06400152_PM0F097	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
68	22x25	0.12	1405	1050	0.6	K06450680_PM0B025	450V
68	22x30	0.12	1405	1050	0.6	K06450680_PM0B030	
100	25x30	0.12	800	560	0.7	K06450101_PM0C030	
100	30x25	0.12	800	560	0.7	K06450101_PM0D025	
150	30x25	0.12	550	400	1.1	K06450151_PM0D025	
150	30x30	0.12	550	400	1.1	K06450151_PM0D030	
220	30x40	0.12	380	265	1.3	K06450221_PM0D040	
220	35x30	0.12	380	265	1.3	K06450221_PM0E030	
330	30x50	0.12	255	175	1.7	K06450331_PM0D050	
330	35x40	0.12	255	175	1.7	K06450331_PM0E040	
470	35x50	0.12	175	125	2.40	K06450471_PM0E050	
560	35x50	0.12	165	122	2.50	K06450561_PM0E050	
680	35x50	0.12	158	110	2.60	K06450681_PM0E050	
680	40x50	0.12	158	110	3.10	K06450681_PM0F050	
820	40x60	0.12	110	95	4.00	K06450821_PM0F060	
1000	40x77	0.12	110	95	4.90	K06450102_PM0F077	
1500	40x97	0.12	110	95	5.56	K06450152_PM0F097	

K06 TYPE STANDARD RATINGS

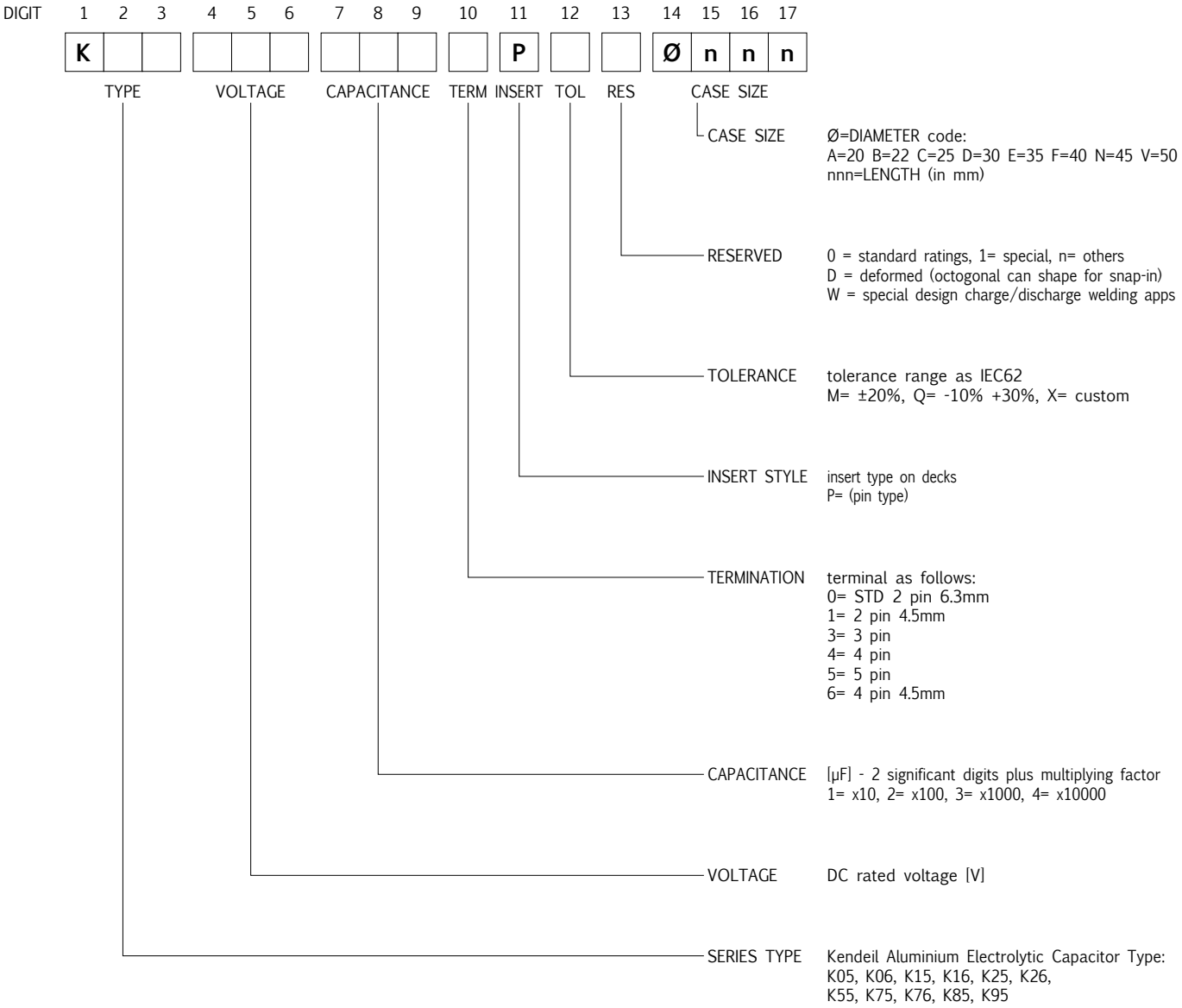
Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
68	25x30	0.15	1870	1380	0.60	K06500680_PM0C030	500V
100	30x30	0.15	1050	790	0.70	K06500101_PM0D030	
150	30x40	0.15	750	580	1.10	K06500151_PM0D040	
220	30x50	0.15	579	440	1.40	K06500221_PM0D050	
220	35x40	0.15	579	440	1.40	K06500221_PM0E040	
330	35x50	0.15	386	290	2.10	K06500331_PM0E050	
470	40x50	0.15	271	200	2.50	K06500471_PM0F050	
560	40x60	0.15	230	190	3.00	K06500561_PM0F060	
680	40x77	0.15	205	155	3.50	K06500681_PM0F077	
820	40x97	0.15	141	119	3.90	K06500821_PM0F097	
1000	40x77	0.15	135	112	4.00	K06500102_PM0F077	
1200	40x97	0.15	125	105	4.90	K06500122_PM0F097	
1500	45x97	0.15	115	98	5.14	K06500152_PM0N097	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
68	25x30	0.15	1898	1443	0.75	K06550680_PM0C030	550V
100	30x30	0.15	1271	970	0.95	K06550101_PM0D030	
150	30x40	0.15	879	670	1.20	K06550151_PM0D040	
180	30x50	0.15	722	550	1.40	K06550181_PM0D050	
180	35x40	0.15	722	550	1.41	K06550181_PM0E040	
220	35x40	0.15	584	445	1.55	K06550221_PM0E040	
270	35x50	0.15	491	377	1.70	K06550271_PM0E050	
330	35x60	0.15	400	306	2.45	K06550331_PM0E060	
330	40x50	0.15	409	316	2.45	K06550331_PM0F050	
470	40x60	0.15	290	223	2.62	K06550471_PM0F060	
560	40x77	0.15	234	180	3.10	K06550561_PM0F077	
680	40x97	0.15	192	147	3.70	K06550681_PM0F097	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP m Ω 100 Hz 20°C	Z TYP m Ω 10 kHz 20°C	Ir a.c. A max 100 Hz 85°C	PART NUMBER termination digit excluded	RATED VOLTAGE VDC
82	30x30	0.15	1427	1020	0.88	K06600820_PM0D030	600V
100	30x40	0.15	1152	902	1.07	K06600101_PM0D040	
150	30x50	0.15	820	630	1.32	K06600151_PM0D050	
150	35x40	0.15	820	630	1.34	K06600151_PM0E040	
220	35x50	0.15	574	415	1.87	K06600221_PM0E050	
270	35x60	0.15	474	353	2.25	K06600271_PM0E060	
270	40x50	0.15	474	353	2.25	K06600271_PM0F050	
330	40x60	0.15	387	280	2.42	K06600331_PM0F060	
470	40x77	0.15	277	193	2.95	K06600471_PM0F077	
560	40x97	0.15	229	179	3.50	K06600561_PM0F097	

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

K05 450V 470µF, standard pin, ±20%, 35x50

Specifications subject to change without notice

Kendeil™