

K22 TYPE -40°C +105°C 8000H

RoHS Compliant

- Surge-proof capacitor in aluminium can with insulation sleeve.
- To be mounted with ring clips or with threaded stud.
- Design optimized for high ripple current applications.

APPLICATIONS

Designed for professional application.
Switch mode power suppliers, high ripple current converters, motor drives.

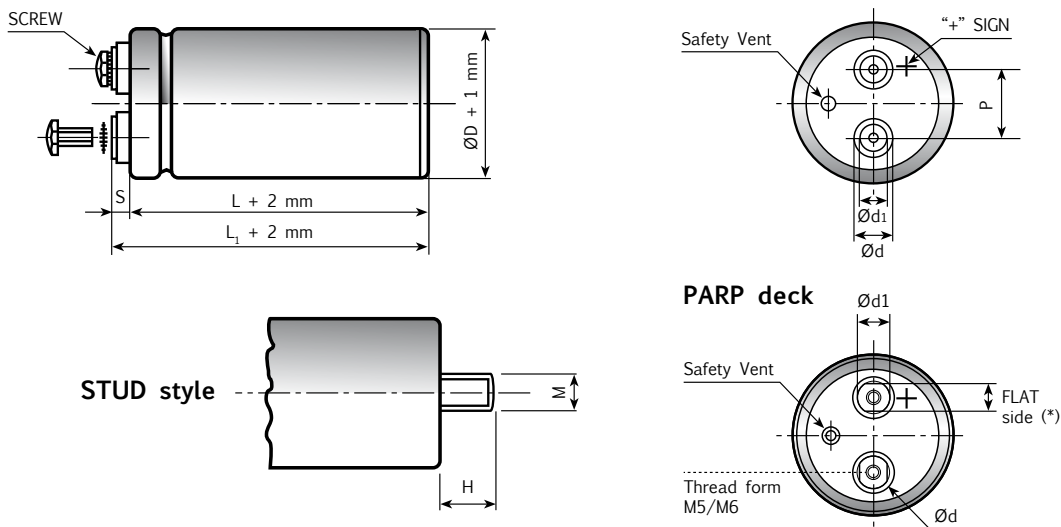


Diagram of dimensions (unit=mm)
Insert and screw threads: Metric (mm), UNF (inches)

ØD	d	d1	P	STUD		INSERT	SCREW	L1	-L[-1+3]	S[-1+1]	INSERT STYLE CODE
				M	H						
35	11	7.9	12.7	M8	12	M5	5MA x 9.5	2.5		5	0
51	18.5	13	22.7	M12	16	M5	5MA x 9.5	2.5		5	H
63	18.5	13	28.6	M12	16	M5	5MA x 9.5	2.5		5	H
63	17.3	17.3	28.6	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	3		4	W
63	17.3	17.3	28.6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	6		7	R
63	7.9	7.9	28.6	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	2		2.5	Z
63	12	7.9	28.6	M12	16	UNF 10-32 High Post	10-32 x 3/8"	6		7	U
76	18.5	13	31.8	M12	16	M5	5MA x 9.5	2.5		5	H
76	18.5	13	31.8	M12	16	M5	5MA x 9.5	2.5		7	L
76	23.2	17.7	31.8	M12	16	M6	6MA x 10	4.5		7	6
76	17.3	17.3	31.8	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	3		4	W
76	17.3	17.3	31.8	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	6		7	R
76	7.9	7.9	31.8	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	2		2.5	Z
76	12	7.9	31.8	M12	16	UNF 10-32 High Post	10-32 x 3/8"	6		7	U
90	23.2	17.7	31.8	M12	16	M6	6MA x 10	4.5		7	H
51	13	13 (10)*	22.7	M12	16	PARP M5	5MA x 9.5	6		7	K
63	15	15 (13)*	28.6	M12	16	PARP M5	5MA x 9.5	6		7	K
76	19	15 (13)*	31.8	M12	16	PARP M5	5MA x 9.5	6		7	K
76	19	15 (13)*	31.8	M12	16	PARP M6	6MA x 10	6		7	Q
90	19	15 (13)*	31.8	M12	16	PARP M6	6MA x 10	6		7	Q

Note: (*) quote on the PARP deck of the flat side (PARP = Protection Against Reverse Polarity).

SPECIFICATIONS

Temperature Range	Operating: -40°C +105°C Storage : Preferably below +25°C, not exceeding +40°C	[Environmental classification 40/105/56 IEC-68]																																										
Rated Voltage Range (V_r)	from 350V to 450V DC																																											
Surge Voltage (V_p)	V _p = 1.10 V _r																																											
Rated Capacitance Range	from 1000 µF to 12000 µF																																											
Capacitance Tolerance	±20% at 100 Hz, 20°C [M class IEC-62] on request: -10% +30% at 100 Hz, 20°C [Q class IEC-62]																																											
Leakage Current (I_L) (mA, 5 min, 20°C)	max I _L = 0.003 C _r V _r + 4 µA At 85°C max I _L = 0.02 C _r V _r µA																																											
Ripple current (I_r)	<p>Refer to table at 105°C and 100Hz:</p> <table border="1"> <thead> <tr> <th>FREQUENCY</th> <th>50Hz</th> <th>100 Hz</th> <th>500Hz</th> <th>1000Hz</th> <th>>10kHz</th> </tr> </thead> <tbody> <tr> <td>MULTIPLIER</td> <td>0.8</td> <td>1.0</td> <td>1.2</td> <td>1.3</td> <td>1.5</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>AMBIENT TEMP</th> <th>35°C</th> <th>45°C</th> <th>55°C</th> <th>65°C</th> <th>75°C</th> <th>85°C</th> <th>95°C</th> <th>105°C</th> <th>110°C</th> </tr> </thead> <tbody> <tr> <td>MULTIPLIER</td> <td>3.0</td> <td>2.8</td> <td>2.6</td> <td>2.4</td> <td>2.2</td> <td>1.8</td> <td>1.5</td> <td>1.0</td> <td>0.5</td> </tr> </tbody> </table> <p>Maximum internal temperature 110°C</p> <p>Due to the current load capability of the contact elements, the following limits must not be exceeded:</p> <table border="1"> <thead> <tr> <th>CAPACITOR DIAMETER</th> <th>51mm</th> <th>63mm</th> <th>76mm</th> <th>90mm</th> </tr> </thead> <tbody> <tr> <td>Maximum current</td> <td>30A</td> <td>40A</td> <td>50A</td> <td>70A</td> </tr> </tbody> </table>		FREQUENCY	50Hz	100 Hz	500Hz	1000Hz	>10kHz	MULTIPLIER	0.8	1.0	1.2	1.3	1.5	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	CAPACITOR DIAMETER	51mm	63mm	76mm	90mm	Maximum current	30A	40A	50A	70A
FREQUENCY	50Hz	100 Hz	500Hz	1000Hz	>10kHz																																							
MULTIPLIER	0.8	1.0	1.2	1.3	1.5																																							
AMBIENT TEMP	35°C	45°C	55°C	65°C	75°C	85°C	95°C	105°C	110°C																																			
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CAPACITOR DIAMETER	51mm	63mm	76mm	90mm																																								
Maximum current	30A	40A	50A	70A																																								
Insulation Resistance	At 100V DC for 1 min is >100 MΩ across insulating sleeve and terminals.																																											
Vibration Resistance	Frequency range: 10 Hz to 55 Hz, amplitude 0.75 mm Capacitor length ≤ 143 : max acceleration 10g for 3x2 h Capacitor length > 143 : max acceleration 5g for 3x0.5 h																																											
Withstand voltage (between terminals bundled and plate)	2500 VAC for 1 min																																											
Life test	After 2,000 hours application of rated voltage at 105°C capacitors meet characteristics aside	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 105°C when restored at 20°C meet specifications aside	Cap change ≤ ±15% tan δ ≤ 150% Leakage current (I _L) < initial limit																																										
Useful life (V_n, Temp rated I ripple applied)	> 250000 h at 40°C > 8000 h at 105°C																																											
Failure percentage Failure rate	≤ 1% (during useful life) ≤ 40 fit (40 10 ⁻⁹ /h)																																											
Self inductance	Approx. 20 nH																																											
Damp heat test (V_n 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																																											
Reference standards	CECC 30.300 IEC 60384-4 LONG LIFE GRADE																																											

K22 TYPE STANDARD RATINGS

**RATED
VOLTAGE
VDC**

350V

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 stud and insert style excluded
1200	51x79	0.08	44	26	5.44	K22350122_M0G079
1200	51x105	0.08	44	26	6.08	K22350122_M0G105
1500	51x105	0.08	40	24	6.78	K22350152_M0G105
1800	51x105	0.08	40	24	6.78	K22350182_M0G105
2200	63x105	0.08	24	15	9.93	K22350222_M0H105
2200	76x79	0.08	24	15	9.15	K22350222_M0J079
2200	76x98	0.08	24	15	9.86	K22350222_M0J098
2800	63x105	0.08	22	14	10.90	K22350282_M0H105
3300	76x79	0.08	20	13	10.20	K22350332_M0J079
3300	76x105	0.08	20	13	12.00	K22350332_M0J105
3900	76x105	0.08	16	11	13.40	K22350392_M0J105
3900	90x98	0.08	16	11	13.50	K22350392_M0L098
4700	76x143	0.09	13	10	16.70	K22350472_M0J143
5600	76x143	0.09	10	8	18.20	K22350562_M0J143
6800	76x214	0.09	9	6	23.00	K22350682_M0J214
6800	90x145	0.09	9	6	20.40	K22350682_M0L145
8200	76x214	0.09	8	6	23.30	K22350682_M0J214
8200	90x145	0.09	8.5	6	22.30	K22350822_M0L145
10000	76x214	0.09	7	5	24.70	K22350103_M0J214
10000	90x145	0.09	7	5	22.70	K22350103_M0L145
12000	90x220	0.10	6.5	4	31.80	K22350123_M0L220

**RATED
VOLTAGE
VDC**

400V

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 stud and insert style excluded
1200	51x79	0.08	44	26	5.44	K22400122_M0G079
1200	51x105	0.08	44	26	6.08	K22400122_M0G105
1500	51x105	0.08	40	24	6.78	K22400152_M0G105
2200	63x105	0.08	24	15	9.93	K22400222_M0H105
2200	76x79	0.08	24	15	9.15	K22400222_M0J079
2200	76x98	0.08	24	15	9.86	K22400222_M0J098
3300	76x105	0.08	20	13	12.00	K22400332_M0J105
3900	76x105	0.08	16	11	13.40	K22400392_M0J105
4400	90x98	0.08	15	10	14.00	K22400442_M0L098
4700	76x143	0.09	13	10	16.70	K22400472_M0J143
5600	76x143	0.09	10	8	18.20	K22400562_M0J143
6800	76x214	0.09	9	6	23.00	K22400682_M0J214
6800	90x145	0.09	9	6	20.40	K22400682_M0L145
8200	90x145	0.09	8.5	6	22.30	K22400822_M0L145
10000	90x220	0.09	7	5	29.70	K22400103_M0L220
12000	90x220	0.10	6.5	4	31.80	K22400123_M0L220

K22 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 stud and insert style excluded
1200	51x79	0.08	44	26	5.44	K22420122_M0G079
1200	51x105	0.08	44	26	6.08	K22420122_M0G105
1500	51x105	0.08	40	24	6.78	K22420152_M0G105
2200	63x105	0.08	24	15	9.93	K22420222_M0H105
2200	76x79	0.08	24	15	9.15	K22420222_M0J079
2200	76x98	0.08	24	15	9.86	K22420222_M0J098
3300	76x105	0.08	20	13	12.00	K22420332_M0J105
3900	76x105	0.08	16	11	13.40	K22420392_M0J105
4400	90x98	0.08	15	10	14.00	K22420442_M0L098
4700	76x143	0.09	13	10	16.70	K22420472_M0J143
5600	76x143	0.09	10	8	18.20	K22420562_M0J143
6800	76x214	0.09	9	6	23.00	K22420682_M0J214
6800	90x145	0.09	9	6	20.40	K22420682_M0L145
8200	90x145	0.09	8.5	6	22.30	K22420822_M0L145
10000	90x220	0.09	7	5	29.70	K22420103_M0L220
12000	90x220	0.10	6.5	4	31.80	K22420123_M0L220

**RATED
VOLTAGE
VDC**

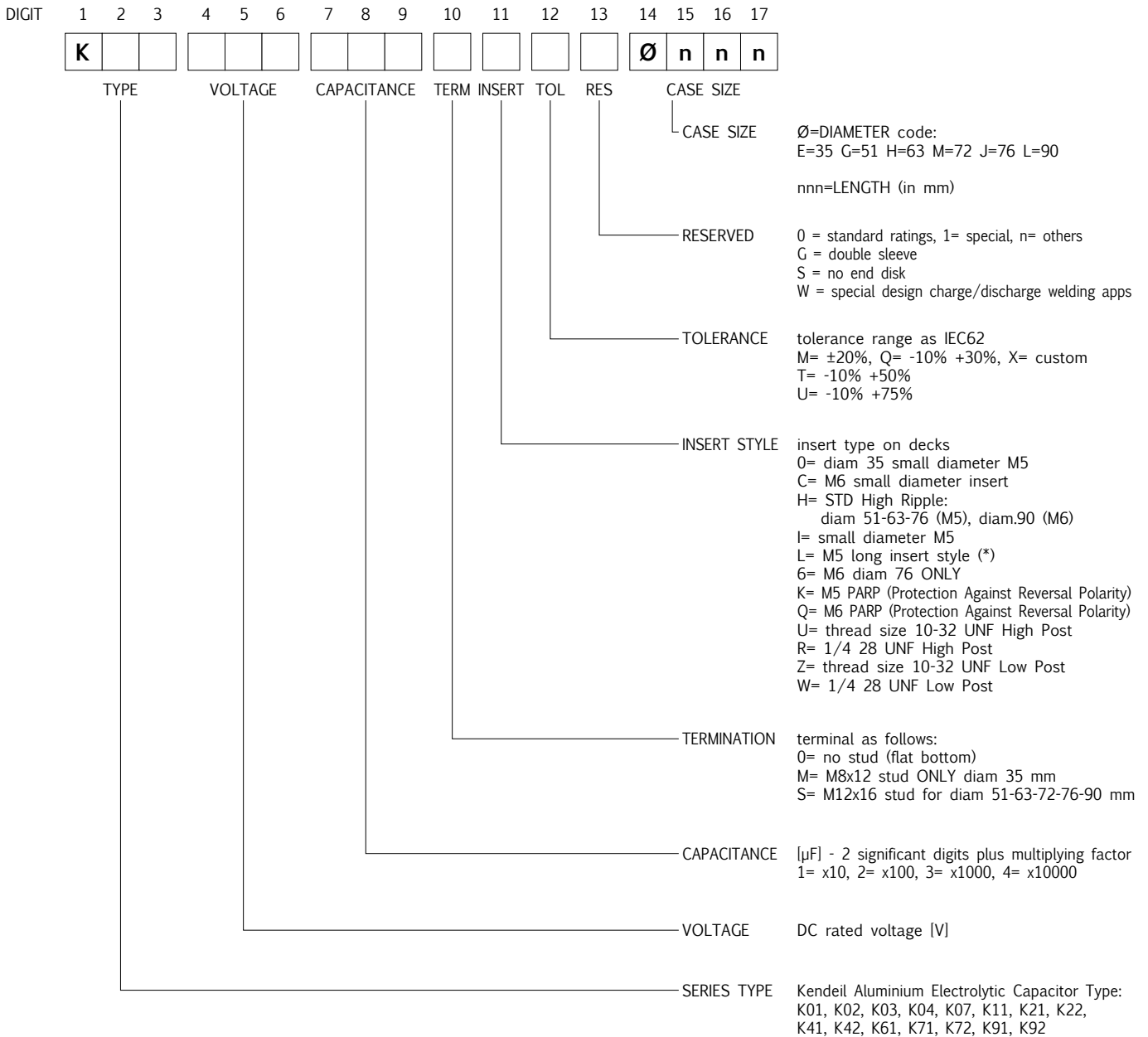
450V

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 stud and insert style excluded
1000	51x79	0.08	67	40	5.20	K22450102_M0G079
1000	51x105	0.08	67	40	5.61	K22450102_M0G105
1200	51x105	0.08	56	32	6.23	K22450122_M0G105
2200	63x105	0.08	30	18	9.75	K22450222_M0H105
2200	76x79	0.08	36	20	8.90	K22450222_M0J079
2200	76x98	0.08	36	20	8.90	K22450222_M0J098
2800	90x98	0.08	28	16	12.20	K22450282_M0L098
3300	76x105	0.08	26	16	11.60	K22450332_M0J105
3900	76x143	0.08	19	14	15.30	K22450392_M0J143
4700	76x143	0.09	16	9	16.70	K22450472_M0J143
5600	90x145	0.09	15	9	18.80	K22450562_M0L145
6800	76x214	0.09	11	6	23.70	K22450682_M0J214
6800	90x145	0.09	11	7	20.60	K22450682_M0L145
8200	90x220	0.09	10	6	27.40	K22450822_M0L220
10000	90x220	0.10	9	6	29.60	K22450103_M0L220

PLEASE TO CONTACT OUR TECHNICAL SERVICE FOR MORE INFORMATION OR SPEC-IN ANALYSIS.

PART NUMBER SYSTEM FOR SCREW 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	1	1	0	0	2	2	3	0	H	M	0	H	1	0	5	K01 100V 22000µF, Hi ripple, -20%+20%, 63x105
K	0	1	0	6	3	2	2	3	S	H	Q	0	G	1	0	5	K01 63V 22000µF, stud M12x16, Hi rip. -10%+30%, 51x105
K	0	2	0	4	0	1	0	4	0	H	M	0	J	1	4	3	K02 40V 100000µF, Hi ripple, -20%+20%, 76x143

Specifications subject to change without notice

(*) Note for INSERT STYLE digit_11

M5 long insert style dedicated to not insulated bus bar (+2 mm height versus STD High Ripple code)