K72 TYPE -40°C +105°C 5000H

RoHS Compliant

- **Design optimized for extremely high miniaturization.**
- **Surge-proof capacitor in aluminium can with insulation sleeve.**
- **To be mounted with ring clips or with threaded stud.**

APPLICATIONS

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

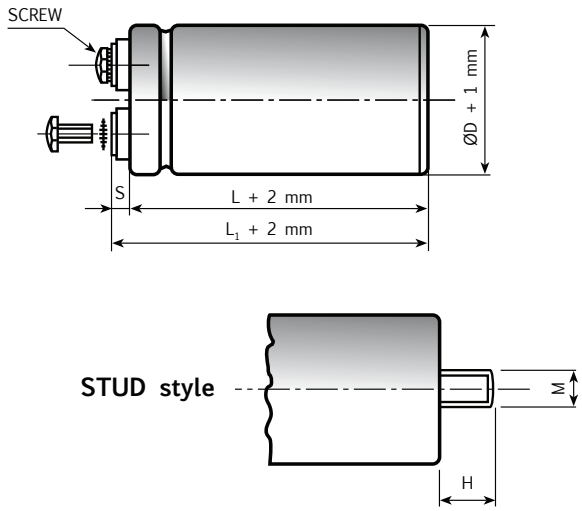


Diagram of dimensions (unit=mm)
Insert and screw threads: Metric (mm), UNF (inches)

ØD	d	d1	P	STUD M	STUD H	INSERT	SCREW	L_1 -L[-1+3]	S[-1+1]	INSERT STYLE CODE
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

SPECIFICATIONS

Temperature Range	Operating : -40°C +105°C [Environmental classification 40/105/56 IEC-68] Storage : Preferably below +25°C, not exceeding +40°C
Rated Voltage Range (V_r)	from 350V to 450V DC
Surge Voltage (V_p)	V_p = 1.10 V_r
Rated Capacitance Range	from 1500 µF to 30000 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= 0.006 C_r V_r + 4 µA
Ripple current (I_r)	Refer to table at 105°C and 100Hz : FREQUENCY 50Hz 100Hz 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 Due to the current load capability of the contact elements, the following limits must not be exceeded: 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
Life test **(105°C, Vn, Ir applied)**	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 **(105°C, Vn, Ir applied)**	> 5.000 h at 105°C
Failure percentage **Failure rate**	≤ 1% (during useful life) ≤ 40 fit (40 10^{-9}/h)
Self inductance	Approx. 20 nH
Reference standards	CECC 30.300 IEC 60384-4 LONG LIFE GRADE

K72 TYPE STANDARD RATINGS

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10kHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
2200	51x79	0.09	42	33	5.12	K72350222__M0G079	350V
2900	51x79	0.09	38	29	5.36	K72350292__M0G079	
3300	51x105	0.09	25	20	6.77	K72350332__M0G105	
3900	51x105	0.09	23	17	6.87	K72350392__M0G105	
4700	63x79	0.09	17	13	8.32	K72350472__M0H079	
5600	63x105	0.09	16	12	10.40	K72350562__M0H105	
6200	63x105	0.09	15	11	10.60	K72350622__M0H105	
6800	76x105	0.09	15	11	12.50	K72350682__M0J105	
8200	76x105	0.09	13	12	13.10	K72350822__M0J105	
9200	76x105	0.09	12	11	13.30	K72350922__M0J105	
10000	76x143	0.09	12	11	17.10	K72350103__M0J143	
13000	76x143	0.09	9	8	18.20	K72350133__M0J143	
13000	90x105	0.09	9	8	15.60	K72350133__M0L105	
19000	90x145	0.11	8	7	21.40	K72350193__M0L145	
20000	76x214	0.13	8	7	26.00	K72350203__M0J214	
30000	90x220	0.13	6	5	30.70	K72350303__M0L220	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10kHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
2200	51x79	0.09	42	33	5.08	K72400222__M0G079	400V
3100	51x105	0.09	29	22	6.54	K72400312__M0G105	
3300	63x79	0.09	29	22	7.66	K72400332__M0H079	
4700	63x105	0.09	21	17	9.93	K72400472__M0H105	
5600	76x105	0.09	19	15	11.70	K72400562__M0J105	
6800	76x105	0.09	18	14	12.50	K72400682__M0J105	
8200	76x143	0.09	16	12	16.00	K72400822__M0J143	
10000	76x143	0.09	14	11	17.10	K72400103__M0J143	
10000	90x145	0.09	14	11	15.00	K72400103__M0L105	
11000	76x143	0.09	12	10	17.20	K72400113__M0J143	
16000	76x214	0.09	9	8	24.60	K72400163__M0J214	
16000	90x145	0.09	9	8	20.50	K72400163__M0L145	
23000	90x220	0.11	8	7	29.40	K72400233__M0L220	

K72 TYPE STANDARD RATINGS

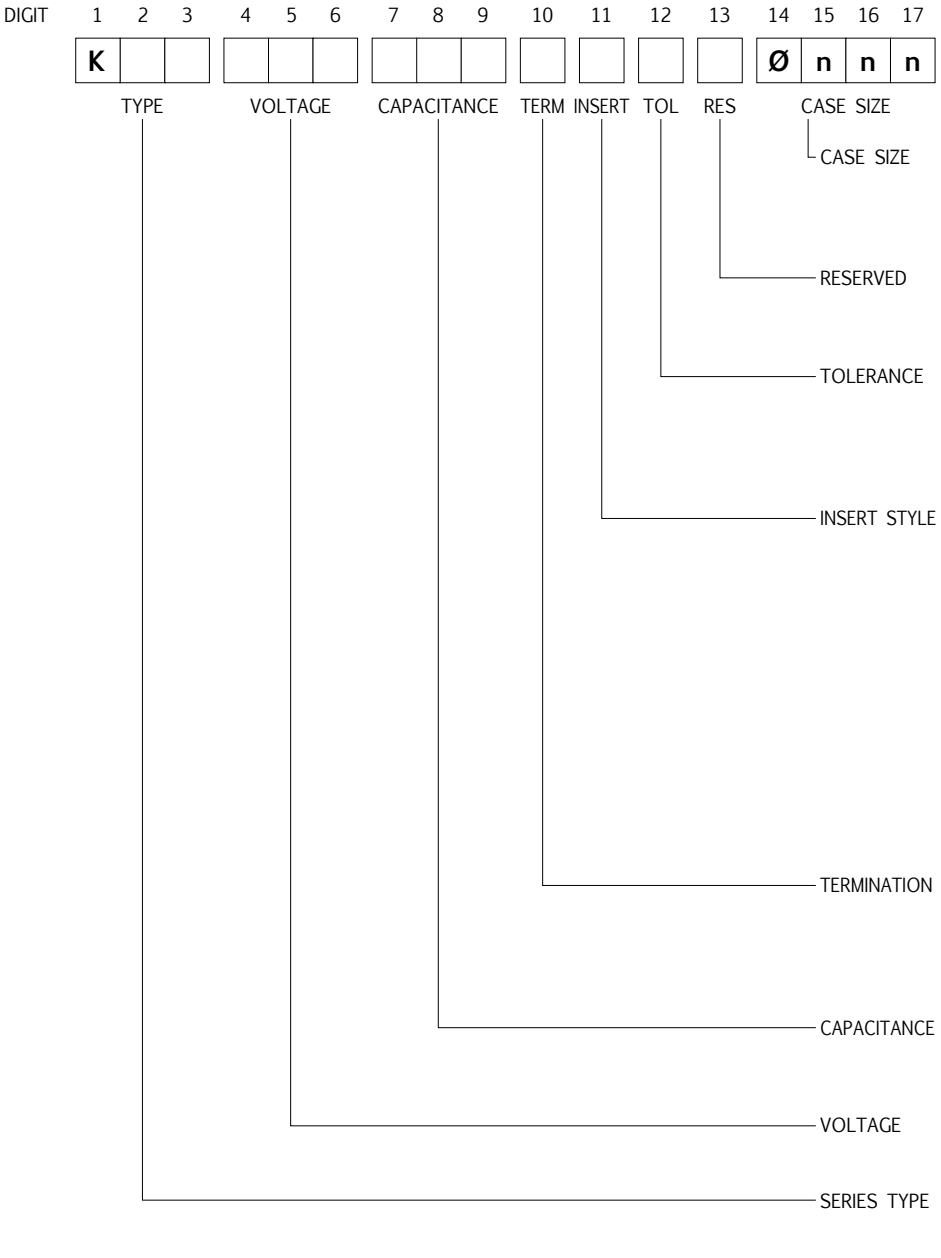
Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10kHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
2200	51x79	0.09	42	33	5.08	K72420222__M0G079	420V
2700	51x105	0.09	40	29	6.39	K72420272__M0G105	
3300	63x79	0.09	29	22	7.66	K72420332__M0H079	
4700	63x105	0.09	21	17	9.93	K72420472__M0H105	
5600	76x105	0.09	16	8	11.70	K72420562__M0J105	
6800	76x105	0.09	19	15	12.50	K72420682__M0J105	
10000	76x143	0.09	14	11	17.10	K72420103__M0J143	
10000	90x105	0.09	14	11	15.00	K72420103__M0L105	
12000	90x145	0.09	11	9	18.30	K72420123__M0L145	
15000	76x214	0.09	9	8	24.00	K72420153__M0J214	
19000	90x220	0.09	9	8	27.20	K72420193__M0L220	

Cap µF	Ø x L mm	Tan δ MAX 100 Hz 20°C	ESR TYP mΩ 100 Hz 20°C	Z TYP mΩ 10kHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
1500	51x79	0.09	53	42	4.54	K72450152__M0G079	450V
1800	51x79	0.09	50	38	4.66	K72450182__M0G079	
2200	51x105	0.09	43	34	5.94	K72450222__M0G105	
2400	51x105	0.09	39	31	6.00	K72450242__M0G105	
2900	63x79	0.09	35	29	7.14	K72450292__M0H079	
3300	63x105	0.09	32	24	8.75	K72450332__M0H105	
3900	63x105	0.09	30	22	9.07	K72450392__M0H105	
4700	76x105	0.09	23	19	11.10	K72450472__M0J105	
5600	76x105	0.09	21	18	11.50	K72450562__M0J105	
6800	76x143	0.09	19	12	15.00	K72450682__M0J143	
8200	76x143	0.09	17	13	15.70	K72450822__M0J143	
8200	90x105	0.09	17	13	13.90	K72450822__M0L105	
10000	76x214	0.09	15	12	21.40	K72450103__M0J214	
12000	76x214	0.09	11	9	22.50	K72450123__M0J214	
12000	90x145	0.09	11	9	19.00	K72450123__M0L145	
18000	90x220	0.09	9	8	27.40	K72450183__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.



CASE SIZE — Ø=DIAMETER code:
E=35 G=51 H=63 M=72 J=76 L=90
nnn=LENGTH (in mm)

RESERVED — 0 = standard ratings, 1= special, n= others
W = special design charge/discharge welding apps

TOLERANCE — tolerance range as IEC62
M= ±20%, Q= -10% +30%, X= custom
T= -10% +50%
U= -10% +75%

INSERT STYLE — insert type on decks
0= diam 35 small diameter M5
C= M6 small diameter insert
H= STD High Ripple:
diam 51-63-76 (M5), diam.90 (M6)
I= small diameter M5
L= M5 long insert style (*)
6= M6 diam 76 ONLY
K= M5 protection against polarity reversal
Q= M6 protection against polarity reversal
U= thread size 10-32 UNF High Post
R= 1/4 28 UNF High Post
Z= thread size 10-32 UNF Low Post
W= 1/4 28 UNF Low Post

TERMINATION — terminal as follows:
0= no stud,
M= M8x12 stud ONLY diam 35 mm
S= M12x16 stud for diam 51-63-72-76-90 mm

CAPACITANCE — [µF] - 2 significant digits plus multiplying factor
1= x10, 2= x100, 3= x1000, 4= x10000

VOLTAGE — DC rated voltage [V]

SERIES TYPE — Kendeil Aluminium Electrolytic Capacitor Type:
K01, K02, K03, K04, K07, K11, K21, K22,
K41, K42, K61, K71, K72, K91, K92

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

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

Kendeil™