

# K71 TYPE -40°C +85°C 15000H

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.

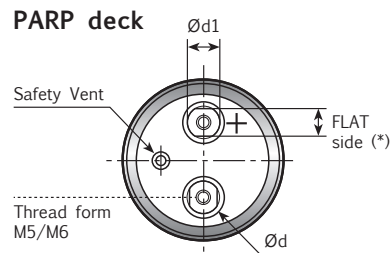
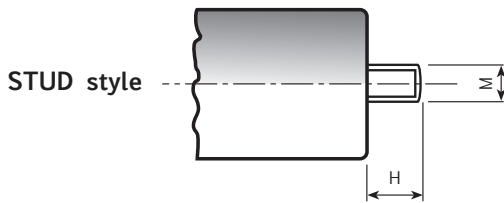
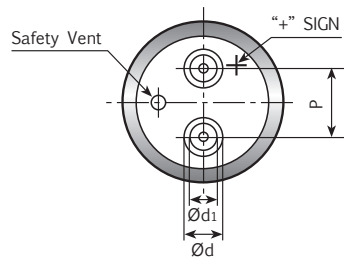
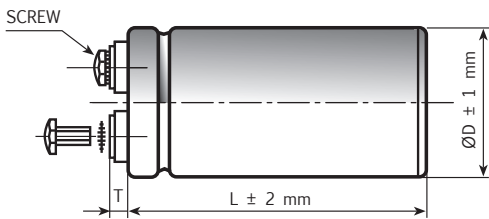


Diagram of dimensions (unit=mm) - Insert and screw threads: Metric (mm), UNF (inches)

ØD	d ±0.3	d1 ±0.3	P ±0.5	T ±2.0	STUD		INSERT	SCREW	INSERT STYLE CODE
					M	H			
35	11.6	7.9	12.7	6.5	M8	12	M5	5MA x 9.5	0
51	18.2	13	22.2	5	M12	16	M5	5MA x 9.5	H
63	18.2	13	28.5	5	M12	16	M5	5MA x 9.5	H
76	18.2	13	31.8	4.5	M12	16	M5	5MA x 9.5	H
76	18.2	13	31.8	6.5	M12	16	M5 long	5MA x 9.5	L
76	23.2	17.7	31.8	5	M12	16	M6	6MA x 10	6
90	23.2	17.7	31.8	5	M12	16	M6	6MA x 10	H
51	13	13(10)*	22.2	5	M12	16	PARP M5	5MA x 9.5	K
63	13	13(10)*	28.5	5	M12	16	PARP M5	5MA x 9.5	B
63	19	15(13)*	28.5	6	M12	16	PARP M5	5MA x 9.5	K
76	19	15(13)*	31.8	6	M12	16	PARP M5	5MA x 9.5	K
76	19	15(13)*	31.8	6	M12	16	PARP M6	6MA x 10	Q
90	19	15(13)*	31.8	6	M12	16	PARP M6	6MA x 10	Q
35	11.6	7.9	12.7	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U
63	17.3	17.3	28.5	2.5	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	W
63	17.3	17.3	28.5	6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	R
63	7.9	7.9	28.5	2	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	Z
63	12	7.9	28.5	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U
76	17.3	17.3	31.8	2.5	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	W
76	17.3	17.3	31.8	6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	R
76	7.9	7.9	31.8	2	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	Z
76	12	7.9	31.8	6.5	M12	16	UNF 10-32 High Post	10-32 x 3/8"	U

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

## K71 TYPE SPECIFICATIONS

<b>Temperature Range</b>	Operating : -40°C +85°C [ Environmental classification 40/85/56 IEC-68 ] 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 2200 µF to 36000 µF																																																				
<b>Capacitance Tolerance</b>	±20% at 100 Hz, 20°C [M class IEC-62] on request : -10% +30% at 100 Hz, 20°C [Q 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 85°C and 100Hz : <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">FREQUENCY</td> <td style="text-align: center;">50Hz</td> <td style="text-align: center;">100Hz</td> <td style="text-align: center;">500Hz</td> <td style="text-align: center;">1000Hz</td> <td style="text-align: center;">&gt;10kHz</td> <td colspan="2"></td> </tr> <tr> <td style="text-align: left;">MULTIPLIER</td> <td style="text-align: center;">0.8</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">1.2</td> <td style="text-align: center;">1.3</td> <td style="text-align: center;">1.5</td> <td colspan="2"></td> </tr> <tr> <td colspan="8"> </td> </tr> <tr> <td style="text-align: left;">AMBIENT TEMP</td> <td style="text-align: center;">35°C</td> <td style="text-align: center;">45°C</td> <td style="text-align: center;">55°C</td> <td style="text-align: center;">65°C</td> <td style="text-align: center;">75°C</td> <td style="text-align: center;">85°C</td> <td style="text-align: center;">95°C</td> </tr> <tr> <td style="text-align: left;">MULTIPLIER</td> <td style="text-align: center;">2.2</td> <td style="text-align: center;">2.1</td> <td style="text-align: center;">1.8</td> <td style="text-align: center;">1.6</td> <td style="text-align: center;">1.4</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">0.5</td> </tr> </table> Due to the current load capability of the contact elements, the following limits must not be exceeded: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">CAPACITOR DIAMETER</td> <td style="text-align: center;">51mm</td> <td style="text-align: center;">63mm</td> <td style="text-align: center;">76mm</td> <td style="text-align: center;">90mm</td> </tr> <tr> <td style="text-align: left;">Maximum current</td> <td style="text-align: center;">30A</td> <td style="text-align: center;">40A</td> <td style="text-align: center;">50A</td> <td style="text-align: center;">70A</td> </tr> </table>			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	MULTIPLIER	2.2	2.1	1.8	1.6	1.4	1.0	0.5	CAPACITOR DIAMETER	51mm	63mm	76mm	90mm	Maximum current	30A	40A	50A	70A
FREQUENCY	50Hz	100Hz	500Hz	1000Hz	>10kHz																																																
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<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 Capacitor length ≤ 143 : max acceleration 0.75mm or 10g for 3x2 h Capacitor length > 143 : max acceleration 0.35mm or 5g for 3x0.5 h																																																				
<b>Withstand voltage (between terminals bundled and plate)</b>	2500 VAC for 1 min																																																				
<b>Life test</b>	After 2,000 hours application of rated voltage at 85°C capacitors meet characteristics aside	Cap change tan δ Leakage current (I <sub>L</sub> ) Impedance (Z)	≤ 10% ≤ 130% < initial limit ≤ 130%																																																		
<b>Shelf life</b>	After leaving capacitors under no load for 2000 hours at 85°C, when restored at 20°C meet specifications aside	Cap change tan δ Leakage current (I <sub>L</sub> )	≤ ±15% ≤ 150% < initial limit																																																		
<b>Useful life (85°C, V<sub>n</sub>, I<sub>r</sub> applied) Operation up to 105°C with voltage derating 0,88 x V rated</b>	> 15.000 h at 85°C																																																				
<b>Failure percentage Failure rate</b>	≤ 1% (during useful life) ≤ 33 fit (33 10 <sup>-9</sup> /h)																																																				
<b>Self inductance</b>	Approx. 20 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>Reference standards</b>	CECC 30.300 IEC 60384-4 LONG LIFE GRADE																																																				

## K71 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 10 kHz 20°C	I <sub>r</sub> a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
3300	51x79	0.09	25	20	9.00	K71350332_M0G079
3500	51x79	0.09	24	17	9.05	K71350352_M0G079
4700	51x105	0.09	17	13	11.60	K71350472_M0G105
6800	63x105	0.09	15	11	17.60	K71350682_M0H105
7600	63x105	0.09	14	10	18.00	K71350762_M0H105
10000	76x105	0.10	12	11	22.20	K71350103_M0J105
11000	76x105	0.10	12	11	22.30	K71350113_M0J105
16000	90x105	0.11	10	8	26.10	K71350163_M0L105
17000	76x143	0.11	9	8	30.80	K71350173_M0J143
24000	76x214	0.11	7	5	44.00	K71350243_M0J214
24000	90x145	0.11	7	5	35.90	K71350243_M0L145
36000	90x220	0.13	5	4	51.30	K71350363_M0L220

**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	I <sub>r</sub> a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
2200	51x79	0.09	42	33	8.21	K71400222_M0G079
2900	51x79	0.09	38	30	8.64	K71400292_M0G079
3300	51x105	0.09	29	22	10.80	K71400332_M0G105
3900	51x105	0.09	28	19	11.10	K71400392_M0G105
4700	63x79	0.09	21	17	9.97	K71400472_M0H079
5600	63x105	0.09	19	15	16.60	K71400562_M0H105
6200	63x105	0.09	18	14	17.10	K71400622_M0H105
6800	76x105	0.09	17	13	18.60	K71400682_M0J105
8200	76x105	0.09	16	12	19.00	K71400822_M0J105
9200	76x105	0.09	14	11	21.20	K71400922_M0J105
13000	76x143	0.10	9	8	29.30	K71400133_M0J143
13000	90x105	0.10	10	9	25.20	K71400133_M0L105
20000	76x214	0.11	8	7	41.90	K71400203_M0J214
20000	90x145	0.11	8	7	34.50	K71400203_M0L145
30000	90x220	0.13	6	5	49.50	K71400303_M0L220

**RATED  
VOLTAGE  
VDC**

**400V**

## K71 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 10 kHz 20°C	I <sub>r</sub> a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
2200	51x79	0.09	42	33	8.21	K71420222_M0G079
2500	51x79	0.09	40	22	8.42	K71420252_M0G079
3300	51x105	0.09	29	22	10.80	K71420332_M0G105
4700	63x79	0.09	21	17	9.97	K71420472_M0H079
5600	63x105	0.09	19	15	16.60	K71420562_M0H105
6800	76x105	0.09	17	13	18.60	K71420682_M0J105
8200	76x105	0.09	16	12	19.00	K71420822_M0J105
12000	76x143	0.09	9	8	28.60	K71420123_M0J143
12000	90x105	0.09	9	8	24.50	K71420123_M0L105
15000	90x145	0.09	8.5	7	32.60	K71420153_M0L145
18000	76x214	0.10	8	7	40.90	K71420183_M0J214
23000	90x220	0.13	7	6	46.80	K71420233_M0L220

**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	I <sub>r</sub> a.c. A max 100 Hz 85°C	PART NUMBER stud and insert style excluded
2200	51x79	0.09	43	34	8.07	K71450222_M0G079
3100	51x105	0.09	32	24	10.40	K71450312_M0G105
4700	63x105	0.09	23	19	15.80	K71450472_M0H105
5600	76x105	0.09	21	18	17.60	K71450562_M0J105
6800	76x105	0.09	18	12	17.70	K71450682_M0J105
10000	90x105	0.09	14	11	22.90	K71450103_M0L105
11000	76x143	0.09	12	10	27.30	K71450113_M0J143
15000	90x145	0.09	9	8	32.60	K71450153_M0L145
16000	76x214	0.09	11	9	39.10	K71450163_M0J214
23000	90x220	0.13	7	6	46.80	K71450233_M0L220

**RATED  
VOLTAGE  
VDC**

**450V**

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