Kendeil™

AVE ADDED VALUE ELECTRONICS
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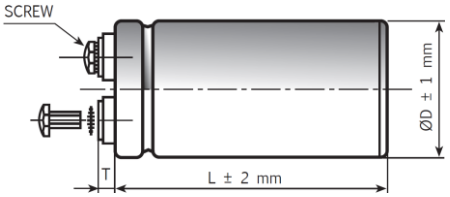
RoHS Compliant

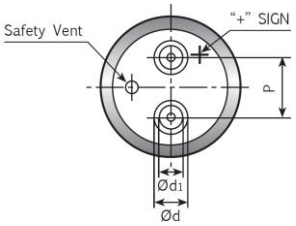
K64 TYPE -40°C +85°C 30000H
PRELIMINARY VERSION

- **Extremely long-life surge-proof aluminium electrolytic capacitors with insulation sleeve.**
- **To be mounted with ring clips or with threaded stud.**
- **Designed for high resistances to voltage spikes.**

APPLICATIONS

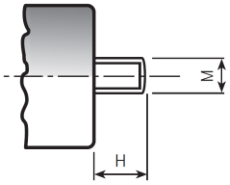
Power supplies, motor drives, welding, energy storage.





PARP deck

STUD style



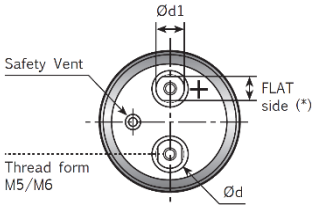


Diagram of dimensions (unit = mm) - Insert and screw threads: Metric (mm), UNF (inches)

øD	d	d1	P	T	STUD		INSERT	SCREW	CODE
	±0.3	±0.3	±0.5	±2.0	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
76	17.2	17.2	31.4	6.4	M12	16	M6 no collar	6MA x 10	F
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 flat side of PARP deck (PARP = Protection Against Reverse Polarity)

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K64 TYPE SPECIFICATIONS
PRELIMINARY VERSION

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 350V to 500V DC
Surge Voltage (V_p)	V_p = 1.10 V_r
Rated Capacitance Range	from 1500 µF to 18000µF
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 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: 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 MULTIPLIER 2.2 2.1 1.8 1.6 1.4 1.0 0.5 Maximum internal temperature 98°C 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 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
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 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)**	>30000h 85°C for V≤450V >22000h for V=500V
Failure percentage **Failure rate**	≤ 1% (during useful life) ≤ 33 fit (33 10^{-9}/h)
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
Reference standards	CECC 30.300 IEC 60384-4 LONG LIFE GRADE

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K64 STANDARD RATINGS
PRELIMINARY VERSION

Cap (µF)	ØxL (mm)	Tan δ MAX 100Hz 20°C	ESR TYP mΩ 100Hz 20°C	Z TYP mΩ 10Khz 20°C	Ir a.c. A max 100Hz 85°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
2200	63x105	0,05	39	26	8,7	K64350222__M0H105	350V
3300	63x105	0,05	25	17	10,3	K64350332__M0H105	
3300	76x105	0,06	29	19	11,0	K64350332__M0J105	
4700	76x105	0,06	21	14	13,2	K64350472__M0J105	
4700	76x143	0,06	21	14	14,9	K64350472__M0J143	
5600	76x143	0,06	17	12	16,2	K64350562__M0J143	
6800	76x143	0,06	14	10	18,2	K64350682__M0J143	
8000	76x143	0,06	12	8	19,4	K64350802__M0J143	
10000	76x214	0,06	10	7	26,8	K64350103__M0J214	
15000	90x220	0,06	7	5	35,6	K64350153__M0L220	
18000	90x240	0,07	5	3	39,0	K64350183__M0L240	

Cap (µF)	ØxL (mm)	Tan δ MAX 100Hz 20°C	ESR TYP mΩ 100Hz 20°C	Z TYP mΩ 10Khz 20°C	Ir a.c. A max 100Hz 85°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
1500	63x105	0,09	74	59	6,8	K64400152__M0H105	400V
2200	63x105	0,09	52	41	7,9	K64400222__M0H105	
2200	76x105	0,10	56	44	8,6	K64400222__M0J105	
3300	76x143	0,10	37	29	11,6	K64400332__M0J143	
4700	76x143	0,10	26	21	14,0	K64400472__M0J143	
6800	76x143	0,11	19	15	16,3	K64400682__M0J143	
10000	76x214	0,11	13	11	24,3	K64400103__M0J214	
12000	90x220	0,12	10	9	28,8	K64400123__M0L220	
15000	90x240	0,12	8	7	31,5	K64400153__M0L240	

Cap (µF)	ØxL (mm)	Tan δ MAX 100Hz 20°C	ESR TYP mΩ 100Hz 20°C	Z TYP mΩ 10Khz 20°C	Ir a.c. A max 100Hz 85°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
1500	63x105	0,09	71	56	6,8	K64420152__M0H105	420V
2200	63x105	0,09	50	39	7,9	K64420222__M0H105	
2200	76x105	0,10	53	41	7,8	K64420222__M0J105	
3300	76x143	0,10	35	28	11,7	K64420332__M0J143	
4700	76x143	0,10	26	20	14,2	K64420472__M0J143	
6800	76x214	0,11	15	11	22,1	K64420682__M0J214	
10000	76x214	0,11	13	11	24,3	K64420103__M0J214	
12000	90x220	0,12	11	10	27,9	K64420123__M0L220	
13000	90x240	0,12	8	7	30,6	K64420133__M0L240	

Cap (µF)	ØxL (mm)	Tan δ MAX 100Hz 20°C	ESR TYP mΩ 100Hz 20°C	Z TYP mΩ 10Khz 20°C	Ir a.c. A max 100Hz 85°C	PART NUMBER stud and insert style excluded	RATED VOLTAGE VDC
1500	63x105	0,08	66	50	6,9	K64450152__M0H105	450V
2200	63x105	0,09	47	36	8,1	K64450222__M0H105	
2200	76x105	0,09	50	38	8,8	K64450222__M0J105	
2200	76x143	0,09	49	38	9,9	K64450222__M0J143	
3300	76x105	0,09	34	26	10,6	K64450332__M0J105	
3300	76x143	0,09	33	26	12,2	K64450332__M0J143	
4700	76x143	0,09	24	18	13,9	K64450472__M0J143	
6800	76x214	0,09	17	13	21,4	K64450682__M0J214	
9000	76x214	0,10	13	11	23,7	K64450902__M0J214	
12000	90x220	0,10	10	8	31,1	K64450123__M0L220	
14000	90x240	0,12	8	6	34,4	K64450143__M0L240	

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K64 STANDARD RATINGS
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Cap (µF)	ØxL (mm)	Tan δ MAX 100Hz 20°C	ESR TYP mΩ 100Hz 20°C	Z TYP mΩ 10Khz 20°C	Ir a.c. A max 100Hz 85°C	PART NUMBER stud and insert style excluded
						RATED VOLTAGE VDC
1500	63x105	0,07	79	59	6,3	K64500152__M0H105
2200	76x105	0,08	59	44	8,0	K64500222__M0J105
2200	76x143	0,08	58	43	9,3	K64500222__M0J143
3300	76x143	0,08	39	29	27,2	K64500332__M0J143
3900	76x143	0,08	34	25	12,0	K64500392__M0J143
4700	76x143	0,08	28	21	12,8	K64500472__M0J143
5600	76x214	0,08	24	18	18,0	K64500562__M0J214
6800	76x214	0,08	20	15	19,8	K64500682__M0J214
10000	90x220	0,08	14	10	26,4	K64500103__M0L220
11000	90x240	0,09	12	9	28,0	K64500113__M0L240
						500V

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