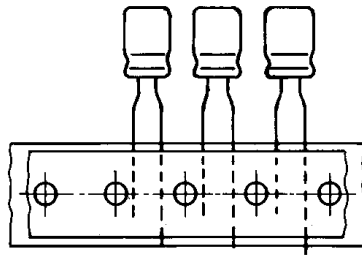
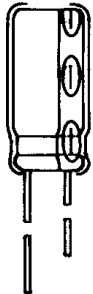


## Aluminum Electrolytic Capacitors, Radial Style



### FEATURES

- Polarized Al electrolytic capacitor
- Extremely long lifetime
- High temperature range up to 125°C
- Low impedance and  $R_{ESR}$  values
- High AC rating

### APPLICATIONS

- Industrial electronics, automotive electronics, data processing electronics, telecommunication systems
- Smoothing, filtering

<b>MAIN SPECIFICATIONS</b>		
Nominal Case Size (D x L)	[mm]	8.5 x 11 to 16 x 31.5
Rated Capacitance Range	[ $\mu$ F]	0.47 to 470
Capacitance Tolerance	[%]	$\pm 20$
Rated Voltage Range	[V]	10 to 100
Category Temperature Range	[°C]	-40 to 125
Endurance Test at Upper Category Temperature	[h]	1000
Lifetime at 125°C and $I_R$	[h]	1500
Lifetime at 85°C and $I_R$	[h]	24000
Lifetime at 40°C and $I_R$	[h]	500.000
Sectional Specifications		IEC 384-4, CECC 30300, GP grade
Climatic category IEC 68 DIN 40040		40 / 125 / 56 GKF
Failure rate	[10 <sup>-9</sup> /h]	$\leq 5$

<b>DIMENSIONS</b>							
Nominal Size (D x L)							
CAP. [μF]	RATED VOLTAGE [V]						
	10	16	25	35	50	63	100
0.47					8 x 11.5	8 x 11.5	8 x 11.5
1.0					8 x 11.5	8 x 11.5	8 x 11.5
2.2					8 x 11.5	8 x 11.5	10 x 12.5
3.3					8 x 11.5	8 x 11.5	10 x 16
4.7					8 x 11.5	8 x 11.5	10 x 16
10				8 x 11.5	8 x 11.5	8 x 11.5	10 x 20
22			8 X 11.5	8 x 11.5	10 x 12.5	10 x 16	13 x 25
33		8 x 11.5	8 X 11.5	10 x 12.5	10 x 16	10 x 20	16 x 25
47	8 x 11.5	8 x 11.5	10 X 12.5	10 x 16	10 x 20	13 x 20	16 x 31.5
100	10 x 12.5	10 x 16	10 X 20	13 x 20	13 x 25	13 x 25	
220	10 x 20	13 x 20	13 X 25	16 x 25			
330	13 x 20	13 x 25	16 x 25				
470	13 x 25	16 x 25					

•10% capacitance tolerance on request

## LEAKAGE CURRENT

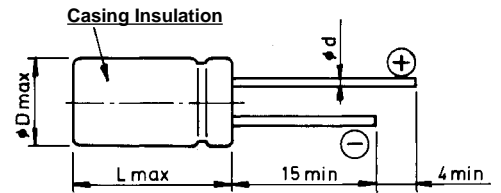
Formula for the calculation of the maximum leakage current for acceptance tests  $I_L$ :  
(Test conditions:  $C_R$ , 20°C, 2 minutes)

$$I_{L2} [\mu A] \leq 0.002 \cdot C_R [\mu F] \cdot U_R [V] \quad \text{or} \quad 0.4 \mu A \quad (\text{whichever is greater})$$

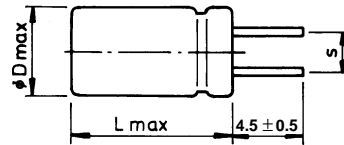
<b>LOW TEMPERATURE BEHAVIOR</b>		
Impedance ratio $Z(T_2) / Z(T_1)$ at 120Hz		
$T_2 / T_1$	RATED VOLTAGE [V]	
	10	16 - 100
-25°C / +20°C	3	2
-25°C / +20°C	5	4

**DIMENSIONS AND LEAD CONFIGURATION**

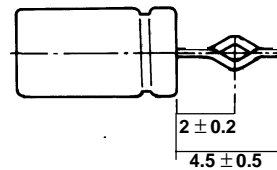
$8 \leq \varnothing D \leq 16$  Long leads EKL 00...



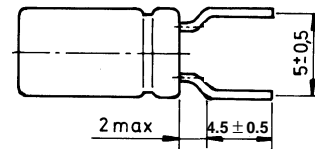
$8 \leq \varnothing D \leq 16$  Shortened leads (S = 3.5 / 5 / 7.5mm) EKL 05...



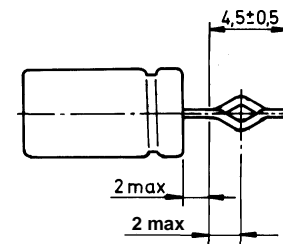
$10 \leq \varnothing D \leq 16$  Leads shortened and formed (S = 5 / 7.5mm) EKL 06...



$\varnothing D \leq 8$  Leads bent open, shortened (S = 5mm) EKL 09...



$\varnothing D \leq 8$  Leads bent open, shortened and formed (S = 2.5 / 5mm) EKL 06...



<b>DIMENSIONS</b> [in millimeters]			
NOMINAL SIZE D X L	MAXIMUM SIZE D <sub>max.</sub> X L <sub>max.</sub>	LEAD ød ± 0.05	LEAD SPACING S ± 0.05
8 x 11.5	8.5 x 12.5	0.6	3.5
10 x 12.5	10.5 x 14.5	0.6	5.0
10 x 16	10.5 x 18.0	0.6	5.0
10 x 20	10.5 x 22.0	0.6	5.0
13 x 20	13.5 x 22.0	0.6	5.0
13 x 25	13.5 x 27.0	0.6	5.0
16 x 25	16.5 x 27.0	0.8	7.5
16 x 31.5	16.5 x 33.5	0.8	7.5

**TECHNICAL AND ORDERING INFORMATION**

If not indicated otherwise the following test

conditions apply to all electrical parameters:

$T_a=20^{\circ}\text{C}$ ,  $p=80\text{-}120\text{ kPa}$ ,  $\text{RH}=45\text{-}75\%$

$C_R$  Rated capacitance at 120Hz  
 $U_R$  Rated voltage  
 $\tan \delta$  Max. dissipation factor at 120Hz  
 $R_{\text{ESR}}$  Max. equivalent series resistance at 120Hz  
 $I_R$  Rated alternating current at 120Hz and upper category temperature

**Ordering example:**

EKL 100  $\mu\text{F}$  / 35V,  $\pm 20\%$ , Size: 13mm x 20mm

Leads: long

Ordering code: EKL00GE310F00

Leads: short ( $4.5 \pm 0.5$ )

Ordering code: EKL 05...

Leads: bent open, shortened

Ordering code: EKL 09...

Leads: bent open, shortened and formed

Ordering code: EKL 06...

<b>ELECTRICAL CHARACTERISTICS, WEIGHT AND ORDERING CODE</b>							
<b>CAP. 120Hz CR [<math>\mu\text{F}</math>]</b>	<b>RATED VOLTAGE UR [V]</b>	<b>DIMENSIONS D x L [mm]</b>	<b>DISSIPATION FACTOR 120Hz</b>	<b>EQUIVALENT SERIES RESISTANCE 120 Hz [<math>\Omega</math>]</b>	<b>RATED CURRENT IR 120Hz, 125°C [mA]</b>	<b>WEIGHT [g]</b>	<b>ORDERING CODE</b>
47	10	8.0 x 11.5	0.15	4.24	95	1.1	EKL00PB247C00
100	10	10.0 x 16.0	0.15	2.00	160	2.0	EKL00DD310C00
220	10	13.0 x 20.0	0.15	0.91	284	3.8	EKL00GE322C00
330	10	13.0 x 20.0	0.15	0.61	408	3.8	EKL00GE333C00
470	10	13.0 x 25.0	0.15	0.43	532	4.5	EKL00GG347C00
33	16	8.0 x 11.5	0.12	4.83	89	1.1	EKL00PB233D00
47	16	8.0 x 11.5	0.12	3.39	106	1.1	EKL00PB247D00
100	16	10.0 x 16.0	0.12	1.60	196	2.0	EKL00DD310D00
220	16	13.0 x 20.0	0.12	0.73	373	3.8	EKL00GE322D00
330	16	13.0 x 25.0	0.12	0.49	498	4.5	EKL00GG333D00
470	16	16.0 x 25.0	0.12	0.34	659	7.0	EKL00JG347D00
22	25	8.0 x 11.5	0.10	6.04	79	1.1	EKL00PB222E00
33	25	8.0 x 11.5	0.10	4.03	97	1.1	EKL00PB233E00
47	25	10.0 x 12.5	0.10	2.83	135	1.5	EKL00DC247E00
100	25	10.0 x 20.0	0.10	1.33	235	2.5	EKL00DE310E00
220	25	13.0 x 25.0	0.10	0.61	445	4.5	EKL00GG322E00
330	25	16.0 x 25.0	0.10	0.41	605	7.0	EKL00JG333E00
10	35	8.0 x 11.5	0.10	13.27	53	1.1	EKL00PB210F00
22	35	8.0 x 11.5	0.10	6.04	79	1.1	EKL00PB222F00
33	35	10.0 x 12.5	0.10	4.03	113	1.5	EKL00DC233F00
47	35	10.0 x 16.0	0.10	2.83	147	2.0	EKL00DD247F00
100	35	13.0 x 20.0	0.10	1.33	275	3.8	EKL00GE310F00
220	35	16.0 x 25.0	0.10	0.61	494	7.0	EKL00JG322F00

<b>ELECTRICAL CHARACTERISTICS, WEIGHT AND ORDERING CODE</b>							
<b>CAP. 120Hz CR [μF]</b>	<b>RATED VOLTAGE UR [V]</b>	<b>DIMENSIONS D x L [mm]</b>	<b>DISSIPATION FACTOR 120Hz</b>	<b>EQUIVALENT SERIES RESISTANCE 120 Hz [Ω]</b>	<b>RATED CURRENT IR 120Hz, 125°C [mA]</b>	<b>WEIGHT [g]</b>	<b>ORDERING CODE</b>
0.47	50	8.0 x 11.5	0.08	226.0	13	1.1	EKL00PB047H00
1	50	8.0 x 11.5	0.08	107.0	19	1.1	EKL00PB110H00
2.2	50	8.0 x 11.5	0.08	48.26	28	1.1	EKL00PB122H00
3.3	50	8.0 x 11.5	0.08	32.17	34	1.1	EKL00PB133H00
4.7	50	8.0 x 11.5	0.08	22.60	41	1.1	EKL00PB147H00
10	50	8.0 x 11.5	0.08	10.62	60	1.1	EKL00PB210H00
22	50	10.0 x 12.5	0.08	4.83	103	1.5	EKL00DC222H00
33	50	10.0 x 16.0	0.08	3.22	138	2.0	EKL00DD233H00
47	50	10.0 x 20.0	0.08	2.26	180	2.5	EKL00DE247H00
100	50	13.0 x 25.0	0.08	1.07	336	4.5	EKL00GG310H00
0.47	63	8.0 x 11.5	0.08	226.0	13	1.1	EKL00PB047J00
1	63	8.0 x 11.5	0.08	107.0	19	1.1	EKL00PB110J00
2.2	63	8.0 x 11.5	0.08	48.26	28	1.1	EKL00PB122J00
3.3	63	8.0 x 11.5	0.08	32.17	34	1.1	EKL00PB133J00
4.7	63	8.0 x 11.5	0.08	22.60	41	1.1	EKL00PB147J00
10	63	8.0 x 11.5	0.08	10.62	60	1.1	EKL00PB210J00
22	63	10.0 x 16.0	0.08	4.83	113	2.0	EKL00DD222J00
33	63	10.0 x 20.0	0.08	3.22	151	2.5	EKL00DE233J00
47	63	13.0 x 20.0	0.08	2.26	211	2.8	EKL00GE247J00
100	63	13.0 x 25.0	0.08	1.07	336	4.5	EKL00GG310J00
0.47	100	8.0 x 11.5	0.08	226.0	13	1.1	EKL00PB047L00
1	100	8.0 x 11.5	0.08	107.0	19	1.1	EKL00PB110L00
2.2	100	10.0 X 12.5	0.08	48.26	33	1.5	EKL00DC122L00
3.3	100	10.0 X 16.0	0.08	32.17	44	2.0	EKL00DD133L00
4.7	100	10.0 X 16.0	0.08	22.60	52	2.0	EKL00DD147L00
10	100	10.0 X 20.0	0.08	10.62	83	2.5	EKL00DE210L00
22	100	13.0 x 25.0	0.08	4.83	157	4.5	EKL00GG222L00
33	100	16.0 x 25.0	0.08	3.22	214	7.0	EKL00JG233L00
47	100	16.0 x 31.5	0.08	2.26	279	9.0	EKL00JS247L00