

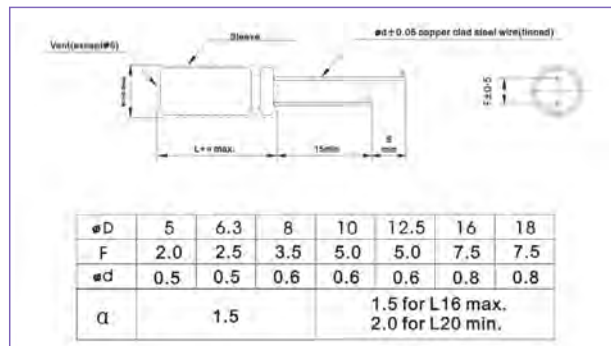
## KLL Miniature Aluminum Electrolytic Capacitors

### 105°C Low Leakage Current Miniature Capacitors, Series KLL.

Guarantees 1000 hours at 105°C

Outline Drawing

Unit: mm



Photo

ROSH



Marking color: black print on yellow sleeve

### Specifications

No.	Item	Performance									
1	Temperature range(°C )	-55 to +105									
2	Leakage current ( μ A)	Less than 0.002CV or 0.3 whichever is larger (after two minutes) C: Capacitance( μ F);V: Rated voltage(V) 20°C									
3	Capacitance tolerance (%)	±20 (20°C ,120Hz)									
4	Tangent of the loss angle (Tan δ )	Rated voltage (V)	6.3	10	16	25	35	50	63	100	20°C ,120Hz
		Tan δ (max)	0.20	0.17	0.13	0.10	0.09	0.08	0.08	0.08	
0.02 is added to every 1000 μ F increase over 1000 μ F											
5	Low temperature characteristics	Rated voltage (V)	6.3	10	16	25	35	50	63	100	120Hz
		Impedance ratio (max)	Z <sub>(-25°C)</sub> /Z <sub>(+20°C)</sub>	4	3	3	2	2	2	2	
			Z <sub>(-40°C)</sub> /Z <sub>(+20°C)</sub>	8	6	6	4	4	3	3	
6	Endurance (105°C ) (Applied ripple current)	Test time	1000 hours								
		Leakage current	The initial specified value or less								
		Percentage of capacitance change	Within ±20% of initial value								
		Tangent of the loss angle	200% or less of the initial specified value								
7	Shelf life (105°C )	Test time	1000hours								
		Leakage current	The initial specified value or less								
		Percentage of capacitance change	Within ±20% of initial value								
		Tangent of the loss angle	200% or less of the initial specified value								
Voltage application treatment: According to JIS-C-5102											
8	Applicable standards	JIS-C-5102 and JIS-C-5141									

### Coefficient of Frequency for Ripple Current

Capacitance ( μ F)	Frequency (Hz)				
	50 · 60	120	1K	10K	100K
CAP ≤ 100	0.75	1.00	1.35	1.55	1.90
100<CAP ≤ 1000	0.83	1.00	1.23	1.32	1.45
1000<CAP	0.90	1.00	1.12	1.10	1.12

### Coefficient of Temperature for Ripple Current

Temperature(°C )	45	60	70	85	95	105
Coefficient	1.80	1.50	1.45	1.30	1.15	1.00

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Dimension:  $\Phi \times D \times L$ (mm)

Ripple Current: mA/rms at 120Hz, 105°C

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC Contents $\mu F$	6.3V		10V		16V		25V		35V		50V		63V		100V	
	$\Phi \times D \times L$	mA	$\Phi \times D \times L$	mA	$\Phi \times D \times L$	mA	$\Phi \times D \times L$	mA	$\Phi \times D \times L$	mA	$\Phi \times D \times L$	mA	$\Phi \times D \times L$	mA	$\Phi \times D \times L$	mA
0.1											5X11	1.3			5X11	2.6
0.22											5X11	2.9			5X11	5.8
0.33											5X11	4.4			5X11	8.0
0.47											5X11	7.0			5X11	10
1											5X11	13			5X11	15
2.2											5X11	20			5X11	23
3.3											5X11	25			5X11	29
4.7							5X11	26	5X11	28	5X11	30	5X11	32	5X11	34
10					5X11	35	5X11	38	5X11	41	5X11	46	5X11	50	6.3X11	56
22			5X11	49	5X11	54	5X11	57	5X11	61	5X11	68	6.3X11	82	8X11.5	96
33	5X11	54	5X11	60	5X11	64	5X11	69	5X11	75	6.3X11	90	6.3X11	100	10X12.5	140
47	5X11	65	5X11	70	5X11	99	5X11	82	6.3X11	100	6.3X11	110	8X11.5	135	10X16	180
100	5X11	95	5X11	105	6.3X11	125	6.3X11	135	8X11.5	170	8X11.5	180	10X12.5	225	12.5X20	320
220	6.3X11	160	6.3X11	175	8X11.5	215	8X11.5	230	10X12.5	300	10X16	345	10X20	400	16X25	570
330	6.3X11	195	8X11.5	245	8X11.5	260	10X12.5	335	10X16	400	10X20	460	12.5X20	540	16X25	700
470	8X11.5	270	8X11.5	290	10X12.5	370	10X16	440	10X20	520	12.5X20	610	12.5X25	700	16X31.5	880
1000	10X12.5	460	10X16	550	10X20	640	12.5X20	770	12.5X25	920	16X25	1080	16X31.5	1210		
2200	12.5X20	810	12.5X20	860	12.5X25	1000	16X25	1170	16X31.5	1340	18X35.5	1530				
3300	12.5X20	960	12.5X25	1100	16X25	1300	16X31.5	1460	18X35.5	1650						
4700	16X25	1330	16X25	1400	16X31.5	1600	18X35.5	1780	18X40	1900						

Special Type