Koshin

KBP Aluminum Electrolytic Capacitors

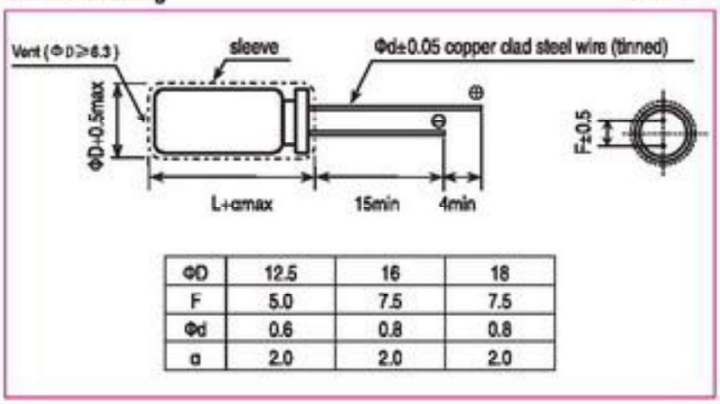
Standard Bi-polar High Temperature Capacitors, Series KBP.

Guaranteed 2000 hours at 105℃

Suitable For Horizontal Deflection Current Correction of TV Sets

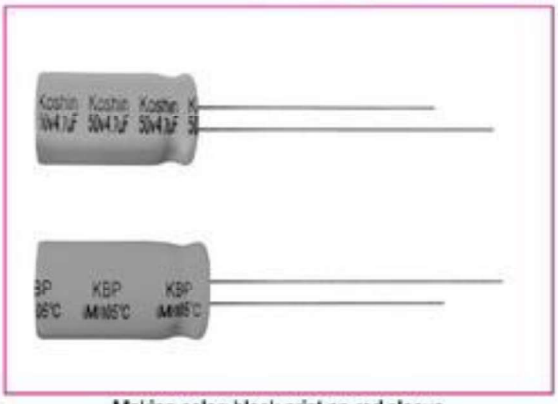
RoHS

Outline Drawing Unit: mm



ΦD	12.5	16	18
F	5.0	7.5	7.5
Φd	0.6	0.8	0.8
α	2.0	2.0	2.0

Photo



Making color: black print on red sleeve

Specifications

No.	Item	Performance				
1	Temperature range (℃)	-40 to +105				
2	Leakage current (μ A)	Less than 100 (after two minutes) C: Rated Capacitance(μ F); V: Rated voltage(V) 20℃				
3	Capacitance tolerance (%)	±10 (20℃,120Hz)				
4	Tangent of the loss angle (Tan δ)	Rated voltage (V)		25	50	63	20℃,120Hz
		Tan δ (max)		0.05	0.05	0.05	
5	Low temperature characteristics	Rated voltage (V)		25	50	63	120Hz
		Impedance ratio (max)	$Z_{(-25℃)}/Z_{(+20℃)}$	2	2	2	
			$Z_{(-40℃)}/Z_{(+20℃)}$	4	4	4	
6	Endurance (105℃) (Applied ripple current)	Test time		2000hours (with the polarity inverted every 250 hrs)			
		Leakage current		The initial specified value or less			
		Percentage of capacitance change		Within ±15% of initial value			
		Tangent of the loss angle		200% or less of the initial specified value			
7	Shelf life (105℃)	Test time		1000hours			
		Leakage current		The initial specified value or less			
		Percentage of capacitance change		Within ±15% of initial value			
		Tangent of the loss angle		200% or less of the initial specified value			
8	Applicable standards	JIS-C-5102 and JIS-C- 5141					

Coefficient of Temperature for Ripple Current

Temperature(℃)	45	60	70	85	95	105
Coefficients	2.10	1.90	1.65	1.40	1.25	1.00

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KBP Aluminum Electrolytic Capacitors

Dimension: ΦDXL(mm)

Ripple Current(Ap-p) 15.75KHz,at 105℃

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC / Contents μF	25V		50V		63V	
	ΦD×L	Ap-p	ΦD×L	Ap-p	ΦD×L	Ap-p
2.2	12.5X25	3.4	12.5X25	3.4	12.5X25	3.4
3.3	16X25	4.1	16X25	4.1	16X25	4.1
4.7	16X31.5	4.5	16X31.5	4.5	16X31.5	4.5
6.8	16X35.5	4.6	16X35.5	4.6	16X35.5	4.6
10	18X35.5	4.9	18X35.5	4.9	18X35.5	4.9
12	18X40	5.0	18X40	5.0	18X40	5.0
15	18X40	5.4	18X40	5.4	18X40	5.4

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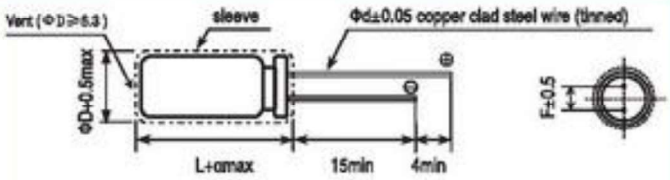
KRL Miniature Aluminum Electrolytic Capacitors

85℃ Low Leakage Current Miniature Capacitors, Series KRL.

Guaranteed 2000 hours at 85℃

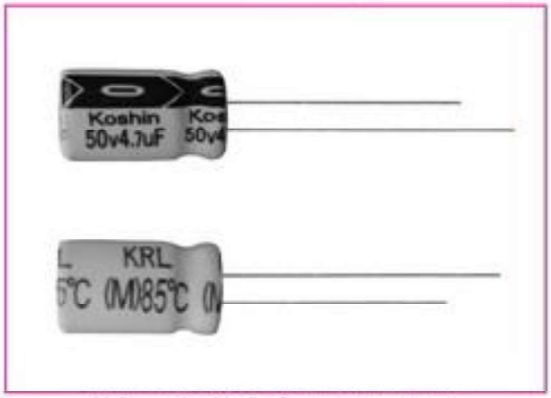
RoHS

Outline Drawing Unit: mm



ΦD	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5/0.6	0.6	0.6	0.8	0.8
α	1.5			1.5 for L16 max 2.0 for L20 min			

Photo



Making color: black print on orange sleeve

Specifications

No.	Item	Performance								
1	Temperature range (℃)	-40 to + 85								
2	Leakage current (μ A)	Less than 0.002CV or 0.3 whichever is larger(after two minutes) C: Rated Capacitance(μ F); V: Rated voltage(V) 20℃								
3	Capacitance tolerance (%)	±20 (20℃,120Hz)								
4	Tangent of the loss angle (Tan δ)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	20℃,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) $Z_{(-25℃)}/Z_{(+20℃)}$	4	3	2	2	2	2	2	2	
		Impedance ratio (max) $Z_{(-40℃)}/Z_{(+20℃)}$	8	6	4	4	4	3	3	3	
6	Endurance (85℃) (Applied ripple current)	Test time	2000hours								
		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 (85℃)	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								
8	Applicable standards	JIS-C-5102 and JIS-C-5141									

Coefficient of Frequency for Ripple Current

Frequency (Hz) / Capacitance (μF)	50 • 60	120	1K	10K	100K
CAP≤100	0.70	1.00	1.35	1.55	2.00
100<CAP≤1000	0.83	1.00	1.23	1.32	1.50
1000<CAP	0.90	1.00	1.12	1.10	1.15

Coefficient of Temperature for Ripple Current

Temperature(℃)	45	60	70	85
Coefficient	1.80	1.50	1.30	1.00

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KRL Miniature Aluminum Electrolytic Capacitors

Dimension: ΦDXL(mm)

DIMENSION & PERMISSIBLE RIPPLE CURRENT

Ripple Current: mA/rms at 120Hz,85℃

V.DC / Contents μF	6.3V		10V		16V		25V		35V		50V		63V		100V	
	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA
0.1											5X11	1.3			5X11	2.6
0.22											5X11	2.9			5X11	5.8
0.33											5X11	4.4			5X11	8.8
0.47											5X11	7			5X11	12
1											5X11	13			5X11	22
2.2											5X11	29			5X11	33
3.3											5X11	35			5X11	40
4.7							5X11	31	5X11	40	5X11	42	5X11	45	5X11	48
10					5X11	44	5X11	54	5X11	58	5X11	65	5X11	70	6.3X11	80
22			5X11	59	5X11	75	5X11	80	5X11	87	5X11	95	6.3X11	115	8X11.5	135
33	5X11	55	5X11	84	5X11	90	5X11	97	5X11	105	6.3X11	125	6.3X11	140	10X12.5	195
47	5X11	79	5X11	100	5X11	110	5X11	115	6.3X11	145	6.3X11	150	8X11.5	190	10X16	255
100	5X11	130	5X11	145	6.3X11	180	6.3X11	190	8X11.5	240	8X11.5	255	10X12.5	320	12.5X20	450
220	6.3X11	230	6.3X11	250	8X11.5	300	8X11.5	320	10X12.5	420	10X16	490	10X20	565	16X25	810
330	6.3X11	280	8X11.5	350	8X11.5	370	10X12.5	470	10X16	570	10X20	650	12.5X20	765	16X25	990
470	8X11.5	380	8X11.5	415	10X12.5	520	10X16	620	10X20	740	12.5X20	860	12.5X25	990	16X31.5	1250
1000	10X12.5	650	10X16	790	10X20	910	12.5X20	1090	12.5X25	1300	16X25	1530	16X31.5	1700		
2200	12.5X20	1150	12.5X20	1240	12.5X25	1420	16X25	1660	16X31.5	1890	18X35.5	2160				
3300	12.5X20	1380	12.5X25	1590	16X25	1840	16X31.5	2070	18X35.5	2340						
4700	16X25	1880	16X25	1980	16X31.5	2260	18X35.5	2520	18X40	2690						

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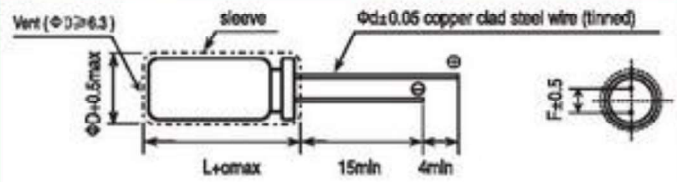
KLL Miniature Aluminum Electrolytic Capacitors

105℃ Low Leakage Current Miniature Capacitors, Series KLL.

Guarantees 1000 hours at 105℃

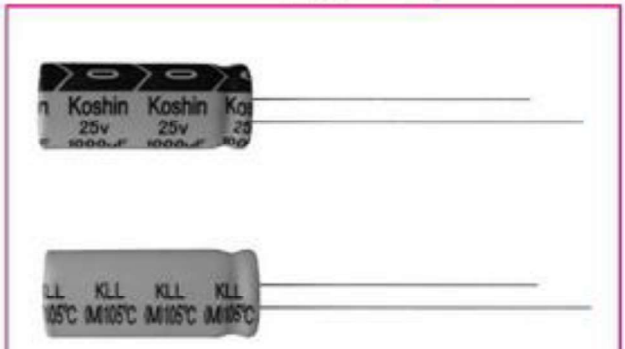
RoHS

Outline Drawing Unit: mm



ΦD	5	6.3	8	10	12.5	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5/0.6	0.6	0.6	0.8	0.8
α	1.5			1.5 for L16 max 2.0 for L20 min			

Photo



Marking color: Black print on orange sleeve

Specifications

No.	Item	Performance									
1	Temperature range(℃)	-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℃									
3	Capacitance tolerance (%)	±20 (20℃,120Hz)									
4	Tangent of the loss angle (Tan δ)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	20℃,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) $Z_{(-25℃)}/Z_{(+20℃)}$	4	3	3	2	2	2	2	2	
		Impedance ratio (max) $Z_{(-40℃)}/Z_{(+20℃)}$	8	6	6	4	4	3	3	3	
6	Endurance (105℃) (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℃)	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

Frequency (Hz) / Capacitance (μ F)	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(℃)	45	60	70	85	95	105
Coefficient	1.80	1.50	1.45	1.30	1.15	1.00

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KLL Miniature Aluminum Electrolytic Capacitors

Dimension: ΦDXL(mm)

Ripple Current: mA/rms at 120Hz,105℃

DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC / Contents μF	6.3V		10V		16V		25V		35V		50V		63V		100V	
	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×L	mA	ΦD×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						