RLS

+ 85°C Low Leakage Radial Lead Aluminum Electrolytic Capacitors

For timing applications

FEATURES

- *Alternative to Tantalum Capacitors*
- *Low Leakage Current*
- *Capacitance Range: .1 µF to 1000 µF*
- *Voltage Range: 10 WVDC to 50 WVDC*
- *Solvent Tolerant End Seals Standard*

SPECIFICATIONS

Capacitance Tolerance		**±20% at 120Hz, 25°C**					
Operating Temperature Range		**-40°C to +85°C**					
Dissipation Factor 120Hz 25°C	**WVDC**	**10**	**16**	**25**	**35**	**50**	
	tanδ	.2	.16	.14	.12	.10	
Impedance Ratio (Max.) 120Hz	**WVDC**	**10**	**16**	**25**	**35**	**50**	
	-25°C/25°C	3	2	2	2	2	
	-40°C/25°C	6	4	3	3	3	
Leakage Current	**WVDC**	**≤ 50 WVDC**					
	Time	**2 minutes**					
		.002 or .4µA whichever is greater					
Load Life		**2,000 hours, at 85°C, with rated voltage**					
		Capacitance change Dissipation factor Leakage current			≤ 20% of initial measured value ≤ 200% of initial specified value ≤ initial specified value		
Shelf Life		1000 hours at + 85°C with no voltage applied. Units will meet load life specification					

SPECIAL ORDER OPTIONS

- *Special tolerances: ±10% (K), -10% + 30% (Q)*
- *Tape and Reel/Ammo Pack*
- *Cut, Formed, Cut and Formed, and Snap In Leads*
- *Epoxy end seal*
- *Polyester sleeve*

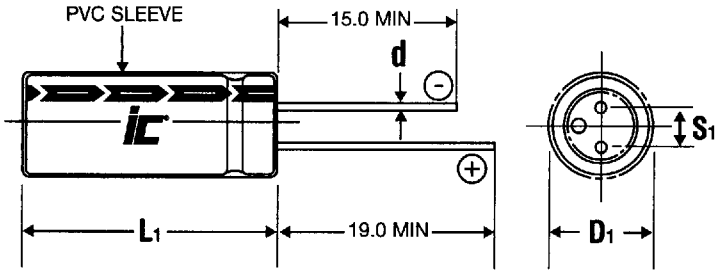
ILLINOIS CAPACITOR, INC. *3757 W.Touhy Ave., Lincolnwood, Illinois 60645 · (847) 675-1760 · Fax (847) 673-2850*

PHYSICAL DIMENSIONS

μF \ WVDC (SV)	10 (13)	16 (20)	25 (32)	35 (44)	50 (63)
0.1	→	→	→	→	5x11
.15	→	→	→	→	5x11
.22	→	→	→	→	5x11
.33	→	→	→	→	5x11
.47	→	→	→	→	5x11
.68	→	→	→	→	5x11
1.0	→	→	→	→	5x11
1.5	→	→	→	→	5x11
2.2	→	→	→	→	5x11
3.3	→	→	→	→	5x11
4.7	→	→	→	→	5x11
6.8	→	→	→	→	5x11
10	→	→	→	5x11	5x11
15	→	→	→	5x11	6.3x11
22	→	5x11	5x11	6.3x11	6.3x11
33	→	5x11	→	6.3x11	8x11.5
47	5x11	6.3x11	6.3x11	→	8x11.5
68	→	6.3x11	→	8x11.5	10x12.5
100	6.3x11	8x11.5	8x11.5	10x12.5	10x16
150	→	8x11.5	10x12.5	10x16	10x20
220	8x11.5	10x12.5	10x16	10x20	12.5x20
330	10x12.5	10x16	10x20	12.5x20	
470	10x16	10x20			
1,000	12.5x20				

Convert to inches, divide by 25.4

DxL(mm)



D	5.0	6.3	8.0	10.0	12.5
S	2.0	2.5	3.5	5.0	5.0
d	0.5	0.5	0.6	0.6	0.6
B	0.5	0.5	0.5	0.5	0.8

D≤8.0, L_1= L+1.0 Max.
D>8.0, L_1= L+1.5 Max.
D_1= D+B Max.
S_1= S±.05mm Max.

NOTE: Case Vent is standard on all diameter ≥8.0mm

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STANDARD PART LISTING

Capacitance µF	WVDC	IC PART NUMBER	Maximum ESR Ω 120Hz,+25°C	Maximum Leakage Current(µA) @2 min,+25°C	Maximum RMS Ripple Current (mA) 120Hz,+85°C
0.1	50	104RLS050M	1,320	.4	2
0.15	50	154RLS050M	884	.4	2
0.22	50	224RLS050M	600	.4	3
0.33	50	334RLS050M	400	.4	4
0.47	50	474RLS050M	280	.4	6
0.68	50	684RLS050M	194	.4	8
1.0	50	105RLS050M	130	.4	12
1.5	50	155RLS050M	88	.4	18
2.2	50	225RLS050M	60	.4	25
3.3	50	335RLS050M	40	.4	38
4.7	50	475RLS050M	28	.5	50
6.8	50	685RLS050M	19	.7	53
10	35	106RLS035M	16	.7	60
10	50	106RLS050M	13	1.0	65
15	35	156RLS035M	11	1.0	70
15	50	156RLS050M	8.8	1.5	88
22	16	226RLS016M	9.6	.7	80
22	25	226RLS025M	8.4	1.1	85
22	35	226RLS035M	7.2	1.5	100
22	50	226RLS050M	6.0	2.2	110
33	16	336RLS016M	6.4	1.1	95
33	35	336RLS035M	4.8	2.3	120
33	50	336RLS050M	4.0	3.3	150
47	10	476RLS010M	5.6	.9	105
47	16	476RLS016M	4.5	1.5	125
47	25	476RLS025M	3.9	2.4	136

NOTE 1: WVDC: MAXIMUM RATED DC WORKING VOLTAGE AT + 85°C.
NOTE 2: SVDC: MAXIMUM RATED DC SURGE VOLTAGE AT +85°C.
NOTE 3: DISSIPATION FACTOR (tan δ) MAXIMUM;120 Hz, +25°C.
NOTE 4: ESR: MAXIMUM EQUIVALENT SERIES RESISTANCE; 120 Hz, +25°C MINIMUM CAPACITANCE, MAXIMUM DISSIPATION FACTOR.

Capacitance µF	WVDC	IC PART NUMBER	Maximum ESR Ω 120Hz,+25°C	Maximum Leakage Current(µA) @2 min,+25°C	Maximum RMS Ripple Current (mA) 120Hz,+85°C
47	50	476RLS050M	2.8	4.7	188
68	16	686RLS016M	3.0	2.2	150
68	35	686RLS035M	2.3	4.8	195
68	50	686RLS050M	1.9	6.8	230
100	10	107RLS010M	2.6	2.0	160
100	16	107RLS016M	2.1	3.2	212
100	25	107RLS025M	1.8	5.0	224
100	35	107RLS035M	1.6	7.0	262
100	50	107RLS050M	1.3	10	306
150	16	157RLS016M	1.4	4.8	255
150	25	157RLS025M	1.2	7.5	286
150	35	157RLS035M	1.1	11.5	338
150	50	157RLS050M	.88	15	400
220	10	227RLS010M	1.2	4.4	274
220	16	227RLS016M	.96	7.0	328
220	25	227RLS025M	.84	11	380
220	35	227RLS035M	.72	15	442
220	50	227RLS050M	.60	22	550
330	10	337RLS010M	.80	6.6	355
330	16	337RLS016M	.64	10.6	434
330	25	337RLS025M	.56	16.5	508
330	35	337RLS035M	.48	23	605
470	10	477RLS010M	.56	9.4	460
470	16	477RLS016M	.45	15	505
1,000	10	108RLS010M	.26	20	820

NOTE 5: MAXIMUM LEAKAGE CURRENT; RATED WVDC, 2 MINUTES, + 25°C.
NOTE 6: RMS RIPPLE CURRENT; 120 Hz, +85°C.
NOTE 7: CAPACITANCE TOLERANCE IS MEASURED AT 120 Hz, +25°C.
NOTE 8: ALL MEASUREMENTS ARE PERFORMED USING THE BRIDGE METHOD.

Ripple Current Multipliers

	Frequency (Hz)						Temperature (°C)			
Capacitance (µF)	50	120	400	1K	10K	100K	+85	+70	+60	+45
C ≤ 10	0.8	1.0	1.3	1.45	1.65	1.7	1.0	1.3	1.5	1.8
10 < C ≤ 100	0.8	1.0	1.23	1.36	1.48	1.53	1.0	1.3	1.5	1.8
100 < C ≤ 1000	0.8	1.0	1.16	1.25	1.35	1.38	1.0	1.3	1.5	1.8
C > 1000	0.8	1.0	1.11	1.17	1.25	1.28	1.0	1.3	1.5	1.8

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