

# CKR/CKS



## Radial Lead Aluminum Electrolytic Capacitors

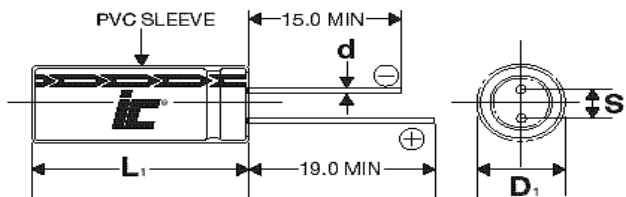
### FEATURES

Small Size - High Voltage - General Purpose

### APPLICATIONS

Bypass - Coupling - Filtering - De-coupling

<b>Operating Temperature Range</b>		<b>-40°C to +85°C (6.3 to 100 WVDC) -25°C to +85°C (160 to 500 WVDC)</b>																	
<b>Capacitance Tolerance</b>		<b>±20% at 120 Hz, 20°C</b>																	
<b>Surge Voltage</b>	<b>WVDC</b>	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	500			
	<b>SVDC</b>	7.9	13	20	32	44	63	79	125	200	250	300	400	450	500	550			
<b>Dissipation Factor</b>	<b>WVDC</b>	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	500			
	<b>Tan δ</b>	.22	.19	.16	.14	.12	.1	.09	.08	.15	.15	.15	.2	.2	.2	.2			
Add .02 for every 1000uF above 1000uF																			
<b>Leakage Current</b>		<b>6.3 to 100 WVDC</b>									<b>160 to 500 WVDC</b>								
		<b>2 Minutes</b>									<b>2 Minutes</b>								
		.01CV or 3uA, Whichever is greater									.03CV+10uA								
<b>Low Temperature Stability Impedance Ratio (120 Hz)</b>	<b>WVDC</b>	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	500			
	<b>-25°C to +20°C</b>	5	4	3	2	2	2	2	2	3	3	4	6	7	7	8			
	<b>-40°C to +20°C</b>	10	8	6	5	3	3	3	3	-	-	-	-	-	-	-			
<b>Load Life</b>		<b>2000 hours at 85°C with rated WVDC and ripple current applied</b>																	
		<b>Capacitance Change</b>	≤20% of initial measured value																
		<b>Dissipation Factor</b>	≤200% of maximum specified value																
		<b>Leakage Current</b>	≤100% of maximum specified value																
<b>Shelf Life</b>		<b>1000 hours at 85°C with no voltage applied</b>																	
		<b>Capacitance Change</b>	≤20% initial measured value																
		<b>Dissipation Factor</b>	≤200% of maximum specified value																
		<b>Leakage Current</b>	≤100% of maximum specified value																
<b>Ripple Current Multipliers</b>		<b>WVDC</b>	<b>Capacitance (uF)</b>						<b>Frequency (Hz)</b>					<b>Temperature (°C)</b>					
		<b>6.3 to 100V</b>	47	50	120	300	1k	10k	100k	85	70	65	60	45					
			68 to 470	0.75	1.0	1.35	1.57	2	2.3	1.0	1.4	1.6	1.7	1.8					
			≥560	0.8	1.0	1.23	1.34	1.5	1.65	1.0	1.4	1.6	1.7	1.8					
		<b>160 to 450V</b>	.47 to 4.7	0.85	1.0	1.1	1.13	1.15	1.4	1.0	1.4	1.6	1.7	1.8					
			6.8 to 82	0.65	1.0	1.35	1.75	2.3	2.5	1.0	1.4	1.6	1.7	1.8					
			100 to 1000	0.75	1.0	1.25	1.5	1.75	1.8	1.0	1.4	1.6	1.7	1.8					
0.8	1.0	1.15	1.5	1.4	1.5	1.0	1.4	1.6	1.7	1.8									



D	5	6.3	8	10	12.5	16	18
S	2.0	2.5	3.5	5.0	5.0	7.5	7.5
d	0.5	0.5	0.6	0.6	0.6	0.8	0.8

L<sub>1</sub>=L+1.5mm Max.  
D<sub>1</sub>=D+0.5mm Max.  
S<sub>1</sub>=S+0.5 mm



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# CKR\_CKS

+85°C, Standard 2000 hour

Capacitance (µF)	WVDC	IC PART NUMBER	Maximum ESR (Ω) 120 Hz, +20°C	Maximum RMS Ripple Current (mA) 120 Hz, +85°C	Dims DxL (mm)
330	25	337CKS025M	0.703	455	8x11.5
330	35	337CKS035M	0.603	580	10x12.5
330	50	337CKS050M	0.5024	710	10x16
330	50	337CKR050M	0.5024	730	10x20
330	63	337CKS063M	0.5024	825	10x20
330	100	337CKS100M	0.5024	990	12.5x25
330	160	337CKS160MLAG	1.005	1150	18x30
470	10	477CKS010M	0.67	385	6.3x11
470	16	477CKS016M	0.564	500	8x11.5
470	25	477CKS025M	0.494	630	10x12.5
470	35	477CKS035M	0.423	755	10x16
470	50	477CKS050M	0.3527	815	10x20
470	50	477CKR050M	0.353	930	12.5x20
470	63	477CKS063M	0.3527	1155	12.5x20
470	100	477CKS100M	0.3527	1395	16x25
470	160	477CKS160MLAD	0.7055	1460	18x35
470	200	477CKS200MLCD	0.7055	1610	18x45
680	50	687CKS050MTJG	0.244	1000	12.5x20
680	50	687CKR050M	0.244	810	12.5x25
680	63	687CKS063MTJD	0.244	1515	12.5x25
680	160	687CKS160MLCD	0.488	1600	18x45
1000	6.3	108CKS6R3M	0.365	610	8x11.5
1000	10	108CKS010M	0.315	795	10x12.5
1000	16	108CKS016M	0.3316	930	10x16
1000	16	108CKS016MLN	0.3316	700	10x12.5
1000	25	108CKS025M	0.232	1095	10x20
1000	25	108CKR025M	0.232	1150	12.5x20
1000	35	108CKR035M	0.199	1370	12.5x25
1000	35	108CKS035M	0.199	1410	12.5x20
1000	50	108CKS050M	0.166	1715	12.5x25
1000	50	108CKR050M	0.166	1510	16x25
1000	63	108CKR063M	0.166	1670	16x30
1000	63	108CKS063M	0.166	2040	16x25
1000	100	108CKS100MRY	0.166	1995	18x35
1500	10	158CKS010M	0.2432	875	10x16
1500	16	158CKS016M	0.199	1025	10x20
1500	25	158CKS025M	0.177	1210	12.5x20
1500	35	158CKR035M	0.155	1110	16x25
1500	50	158CKS050M	0.133	1650	16x30
2200	6.3	228CKS6R3M	0.211	900	10x16
2200	10	228CKS010M	0.1809	1230	10x20

Capacitance (µF)	WVDC	IC PART NUMBER	Maximum ESR (Ω) 120 Hz, +20°C	Maximum RMS Ripple Current (mA) 120 Hz, +85°C	Dims DxL (mm)
2200	16	228CKS016M	0.151	1555	12.5x20
2200	16	228CKS016MLU	0.151	1010	10x20
2200	25	228CKS025M	0.136	1800	12.5x25
2200	25	228CKR025M	0.1356	1770	16x25
2200	35	228CKR035M	0.1206	2090	16x30
2200	35	228CKS035M	0.121	2135	16x25
2200	50	228CKS050M	0.106	2390	16x35
2200	50	228CKS050MQW	0.106	2320	16x30
2200	63	228CKS063M	0.106	2300	18x35
3300	6.3	338CKS6R3M	0.1507	1350	10x20
3300	10	338CKS010M	0.1306	1685	12.5x20
3300	16	338CKS016M	0.1105	1990	12.5x25
3300	25	338CKS025M	0.703	2305	16x25
3300	35	338CKS035MQW	0.0904	2340	16x30
3300	50	338CKS050M	0.0804	3220	18x35
3300	63	338CKS063MLCG	0.0804	2500	18x40
4700	6.3	478CKS6R3M	0.1129	1830	12.5x20
4700	10	478CKS010M	0.0988	2105	12.5x25
4700	16	478CKS016M	0.085	2490	16x25
4700	25	478CKS025M	0.078	2855	16x30
4700	35	478CKS035M	0.071	3400	18x35
4700	35	478CKS035MQY	0.071	2500	16x35
4700	50	478CKS050MLCG	0.0635	3340	18x40
6800	6.3	688CKS6R3M	0.083	1930	12.5x25
6800	10	688CKS010M	0.0756	2610	16x25
6800	16	688CKS016MQV	0.068	2250	16x25
6800	16	688CKS016MKAG	0.068	3010	16x30
6800	25	688CKS025MQY	0.063	2600	16x35
6800	25	688CKS025M	0.063	3530	18x35
6800	35	688CKS035M	0.0585	3500	18x40
10000	6.3	109CKS6R3M	0.0696	2760	16x25
10000	10	109CKS010MQW	0.063	2960	16x30
10000	16	109CKS016M	0.056	3230	18x35
10000	16	109CKS016MQY	0.056	3490	16x35
10000	25	109CKS025M	0.053	2800	18x40
15000	6.3	159CKS6R3M	0.0531	2860	16x35
15000	10	159CKS010MKCG	0.0531	3100	16x40
15000	16	159CKS016M	0.052	3100	18x40
22000	6.3	229CKS6R3MRY	0.0497	3200	18x35
22000	6.3	229CKS6R3M	0.0497	3400	18x40
22000	10	229CKS010M	0.0467	3400	18x40