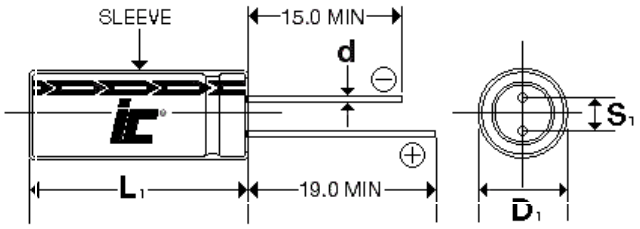
CKR/CKS

Radial Lead Aluminum Electrolytic Capacitors

FEATURES	Small Size - High Voltage - General Purpose
APPLICATIONS	Bypass – Coupling – Filtering – De-coupling

Operating Temperature Range		**-40°C to +85°C (6.3 to 100 WVDC) -25°C to +85°C (160 to 500 WVDC)**														
Capacitance Tolerance		**±20% at 120 Hz, 20°C**														
Surge Voltage	**WVDC**	**6.3**	**10**	**16**	**25**	**35**	**50**	**63**	**100**	**160**	**200**	**250**	**350**	**400**	**450**	**500**
	SVDC	7.9	13	20	32	44	63	79	125	200	250	300	400	450	500	550
Dissipation Factor	**WVDC**	**6.3**	**10**	**16**	**25**	**35**	**50**	**63**	**100**	**160**	**200**	**250**	**350**	**400**	**450**	**500**
	Tan δ	.24	0.2	.16	.14	.12	.1	.1	.08	.2	.2	.2	.2	.2	.2	.24
		Add .02 for every 1000uF above 1000uF														
Leakage Current		**6.3 to 100 WVDC**								**160 to 500 WVDC**						
		2 Minutes								**2 Minutes**						
		.01CV or 3uA, Whichever is greater								.03CV+10uA						
Low Temperature Stability Impedance Ratio (120 Hz)	**WVDC**	**6.3**	**10**	**16**	**25**	**35**	**50**	**63**	**100**	**160**	**200**	**250**	**350**	**400**	**450**	**500**
	-25°C to +20°C	5	4	3	2	2	2	2	2	3	3	4	6	7	7	8
	-40°C to +20°C	10	8	6	5	3	3	3	3	-	-	-	-	-	-	-
Load Life		**2000 hours at 85°C with rated WVDC and ripple current applied**														
		Capacitance Change	≤20% of initial measured value													
		Dissipation Factor	≤200% of maximum specified value													
		Leakage Current	≤100% of maximum specified value													
Shelf Life		**1000 hours at 85°C with no voltage applied**														
		Capacitance Change	≤20% initial measured value													
		Dissipation Factor	≤200% of maximum specified value													
		Leakage Current	≤100% of maximum specified value													

Ripple Current Multipliers	**WVDC**	**Capacitance (uF)**	**Frequency (Hz)**						**Temperature (°C)**				
			50	**120**	**300**	**1k**	**10k**	**100k**	**85**	**70**	**65**	**60**	**45**
	6.3 to 100V	**47**	0.75	1.0	1.35	1.57	2	2.3	1.0	1.4	1.6	1.7	1.8
		68 to 470	0.8	1.0	1.23	1.34	1.5	1.65	1.0	1.4	1.6	1.7	1.8
		≥560	0.85	1.0	1.1	1.13	1.15	1.4	1.0	1.4	1.6	1.7	1.8
	160 to 450V	**.47 to 4.7**	0.65	1.0	1.35	1.75	2.3	2.5	1.0	1.4	1.6	1.7	1.8
		6.8 to 82	0.75	1.0	1.25	1.5	1.75	1.8	1.0	1.4	1.6	1.7	1.8
		100 to 1000	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

mm

L_1=L+1.5mm Max.
D_1=D+0.5mm Max.
S_1=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)
1	50	105CKR050M	165.79	13	5x11
1	100	105CKR100M	165.79	25	5x11
1	250	105CKR250M	331.573	18	6.3x11
1	450	105CKS450M	397.887	29	8x11.5
1	450	105CKS450MEBB	397.887	20	6.3x11
1	500	105CKS500MEBB	397.887	20	6.3x11
1.5	50	155CKR050M	110.52	18	5x11
2.2	50	225CKR050M	75.358	28	5x11
2.2	100	225CKS100M	75.357	40	5x11
2.2	250	225CKS250M	150.715	32	6.3x11
2.2	350	225CKS350M	180.858	38	6.3x11
2.2	400	225CKS400MEBB	180.858	38	6.3x11
2.2	450	225CKS450MJM	180.858	38	8x11.5
2.2	500	225CKS500MFH	180.858	34	8x11.5
3.3	50	335CKS050M	50.238	35	5x11
3.3	100	335CKS100M	50.238	45	5x11
3.3	250	335CKS250MGM	100.477	40	6.3x11
3.3	350	335CKS350MJM	120.572	55	8x11.5
3.3	400	335CKS400MJM	120.572	55	8x11.5
3.3	450	335CKS450MLM	120.572	40	10x12.5
4.7	50	475CKR050M	35.274	50	5x11
4.7	100	475CKR100M	28.219	55	5x11
4.7	250	475CKS250MGM	70.547	58	6.3x11
4.7	400	475CKS400M	84.6569	75	10x16
4.7	400	475CKS400MFH	84.6569	70	8x11.5
4.7	450	475CKS450M	84.6569	75	10x16
4.7	450	475CKS450MLN	84.6569	70	10x12.5
4.7	500	475CKS500MGBW	84.6569	68	10x16
6.8	500	685CKS500MGJG	58.5128	80	10x20
10	50	106CKR050M	16.579	75	5x11
10	63	106CKR063M	16.579	75	5x11
10	100	106CKS100MEM	16.579	80	5x11
10	160	106CKS160M	33.157	90	8x11.5
10	200	106CKS200M	33.157	100	10x12.5
10	250	106CKS250MLN	33.157	105	10x20
10	400	106CKS400MLQ	39.7887	120	10x16
10	450	106CKS450MLU	39.7887	80	10x20
10	450	106CKS450MGBW	39.7887	105	10x16
10	500	106CKS500MTJG	39.7887	105	12.5x20
15	50	156CKR050M	11.052	78	5x11
22	50	226CKR050M	7.536	110	5x11
22	63	226CKR063M	7.536	130	6.3x11
22	63	226CKS063M	7.536	115	5x11
22	100	226CKS100M	7.536	135	6.3x11
22	100	226CKR100M	7.536	155	8x11.5
22	160	226CKS160M	15.071	172	10x16
22	200	226CKS200MLQ	15.071	175	10x16
22	250	226CKS250MLU	15.071	195	10x20
22	350	226CKS350M	18.0858	210	12.5x20
22	400	226CKS400M	18.0858	210	12.5x25
22	400	226CKS400MTJG	18.0858	210	12.5x20
22	450	226CKS450M	18.0858	210	16x25
22	450	226CKS450MNV	18.0858	210	12.5x25
22	500	226CKS500MKJH	18.0858	195	16x20
33	35	336CKR035M	6.0238	110	5x11
33	50	336CKS050M	5.0238	130	5x11
33	63	336CKR063M	5.0238	160	6.3x11
33	160	336CKS160M	10.048	230	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)
33	200	336CKS200MLU	10.048	240	10x20
33	250	336CKS250M	10.048	260	12.5x20
33	350	336CKS350M	12.0572	300	12.5x25
33	400	336CKS400M	12.0572	260	16x25
33	400	336CKS400MTJD	12.0572	300	12.5x25
33	450	336CKS450M	12.0572	280	16x30
33	450	336CKS450MQV	12.0572	300	16x25
33	500	336CKS500MKJD	12.0572	260	16x25
47	25	476CKR025M	4.938	130	5x11
47	35	476CKS035M	4.233	140	5x11
47	50	476CKR050M	2.822	180	6.3x11
47	63	476CKR063M	2.822	210	8x11.5
47	63	476CKS063M	2.822	190	6.3x11
47	100	476CKS100M	2.822	260	10x12.5
47	100	476CKR100M	2.822	280	10x16
47	160	476CKR160M	7.055	270	12.5x25
47	160	476CKS160MLU	7.055	285	10x21
47	200	476CKS200MTJG	7.055	310	12.5x20
47	250	476CKS250MNU	7.055	310	12.5x20
47	250	476CKS250M	7.055	350	12.5x25
47	350	476CKS350M	8.4657	390	16x25
47	400	476CKS400MQV	8.4657	390	16x25
47	450	476CKS450MQW	8.4657	380	16x30
47	500	476CKS500MKAG	8.4657	320	16x30
68	500	686CKS500MKAD	5.8513	430	18x35
82	500	826CKS500MKCG	4.8523	500	18x40
100	16	107CKS016M	2.653	175	5x11
100	25	107CKS025MEM	2.321	180	5x11
100	35	107CKS035M	1.989	235	6.3x11
100	50	107CKR050M	1.658	310	8x11.5
100	63	107CKR063M	1.658	330	10x12.5
100	63	107CKS063MJM	1.658	325	8x11.5
100	100	107CKS100MLQ	1.658	340	10x16
100	100	107CKS100M	1.658	455	10x20
100	160	107CKS160M	3.316	490	12.5x25
100	250	107CKS250MQV	3.316	560	16x25
100	350	107CKS350M	3.9789	550	18x35
100	400	107CKS400MKAD	3.9789	640	16x35
100	450	107CKS450MLAD	3.9789	640	18x35
100	450	107CKS450M	3.9789	550	18x40
100	500	107CKS500MKCD	3.9789	590	18x45
150	50	157CKS050M	1.1052	263	8x11.5
150	450	157CKS450MLCD	2.65258	850	18x45
150	450	157CKS450MLCG	2.65258	860	18x40
220	10	227CKS010M	1.507	230	5x11
220	16	227CKS016M	1.206	290	6.3x11
220	25	227CKR025M	1.055	370	8x11.5
220	25	227CKS025MGM	1.055	280	6.3x11
220	35	227CKR035M	0.904	450	10x12.5
220	35	227CKS035M	1.055	405	8x11.5
220	50	227CKS050M	0.754	510	10x12.5
220	50	227CKR050M	0.754	540	10x16
220	63	227CKS063M	0.754	615	10x16
220	100	227CKS100MNU	0.754	745	12.5x20
220	160	227CKS160MQW	1.13	900	16x30
220	200	227CKS200M	1.13	960	16x35
220	250	227CKS250M	1.13	1020	18x35
330	10	337CKS010M	1.005	325	6.3x11

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+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	109CKS016MQY	0.056	3490	16x35
10000	16	109CKS016M	0.056	3230	18x35
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

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