

# DER

## Radial Leaded Super Capacitors



### FEATURES

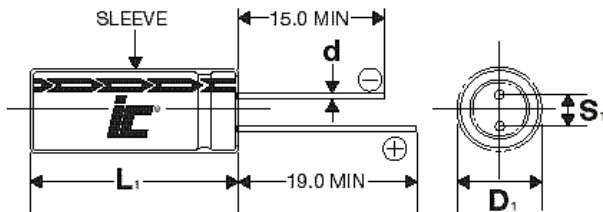
High Capacitance – Very fast charge/discharge – High power density

### APPLICATIONS

Battery backup/ alternative – LED Displays – DC/DC converters – Pulse power

<b>Operating Temperature Range</b>		<b>-25°C to +70°C</b>	
<b>Storage Temperature</b>		<b>-40°C to +70°C</b>	
<b>Capacitance Tolerance</b>		<b>+50%/-20% @ 25°C</b>	
<b>Voltage</b>	<b>WVDC</b>	<b>2.5</b>	
	<b>SVDC</b>	<b>2.7</b>	
<b>Maximum Current</b>		See standard part listing	<b>0.5*WVDC/(ESR<sub>DC</sub>+(1/C))</b>
<b>Leakage Current</b>		See standard part listing	72 hours, 25°C
<b>1000 hours at rated voltage and 70°C</b>			
<b>Life time</b>		<b>Capacitance change</b>	±30% of initially measured values
		<b>ESR</b>	≤200% of initially specified values
<b>500,000 cycles</b>			
<b>Life cycles</b> (25°C) 1 cycle= Charge to WVDC for 20s, constant voltage charging for 10s, discharge to ½ WVDC for 20s, rest for 10 s		<b>Capacitance change</b>	±30% of initially measured values
		<b>ESR</b>	≤200% of initially specified values

D= 8 to 18mm



Lead spacing VS. Case diameter					
<b>D</b>	8(L>20)	8(L>20)	10	16	18
<b>S</b>	3.5	3.5	5.0	7.5	7.5
<b>d</b>	0.5	0.6	0.6	0.8	0.8

$L_1 = L(<20\text{mm} + 1.5\text{mm}) (\geq 20\text{mm} + 2.0\text{mm})$   
 $D_1 = D(<20\text{mm} + 0.5\text{mm}) (\geq 20\text{mm} + 1.0\text{mm})$   
 $S_1 = S \pm 0.5\text{mm}$

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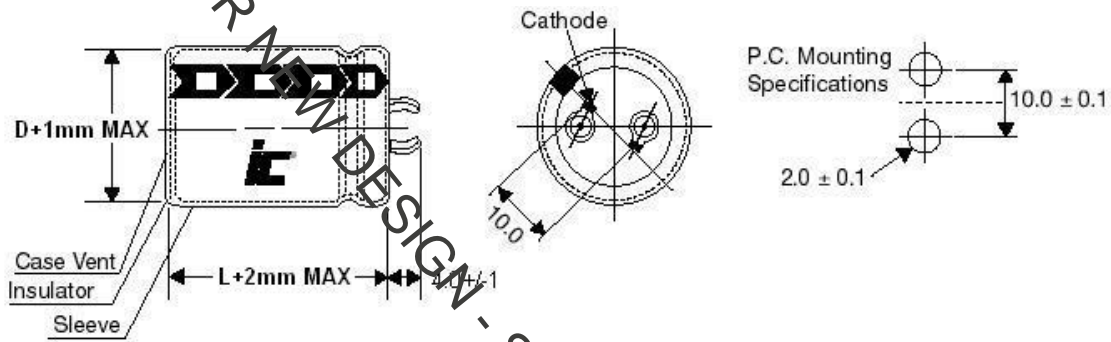
# DER

## Radial Leaded Super Capacitors

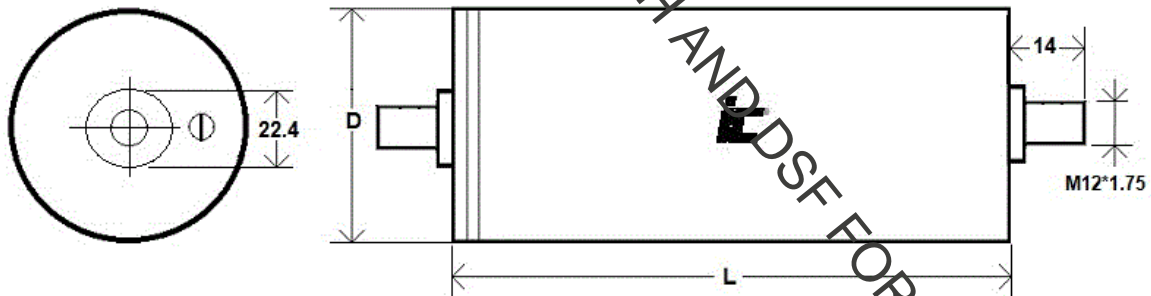


### Snap in types

$$20\text{mm} \leq D < 60\text{mm}$$



### Capacitance = 500F to 650F



NOT RECOMMENDED FOR NEW DESIGN

**DER** Radial lead, +70°C

WVDC	Capacitance (F)	IC PART NUMBER	MAX Current (A)	Maximum Continuous Current (A) ( $\Delta T=15^{\circ}C$ )	Short Circuit Current (A)	ESR AC 1 kHz (m $\Omega$ )	DC ESR (m $\Omega$ ) 20°C	Max stored energy (mWh)	LC (mA), (72 hrs)	Energy Density (Wh/kg)	Energy Volumetric Density (Wh/l)	Power Density (kW/kg)	Power Volumetric Density (kW/l)
2.5	1.0	206DER2R5SFN	0.63	500	1000	500	1000	0.868	0.008	1.0117	1.4391	0.8741	1.2434
2.5	2.0	205DER2R5SFQ	1.19	350	550	350	550	1.736	0.01	1.6001	2.1587	1.2568	1.6955
2.5	3.0	305DER2R5SFU	1.91	200	320	200	320	2.604	0.012	2.075	2.5904	1.8675	2.3314
2.5	3.3	335DER2R5SGU	2.01	200	320	200	320	2.865	0.014	1.3641	1.8237	1.1161	1.4921
2.5	4.7	475DER2R5SGU	2.49	180	290	180	290	4.08	0.016	1.7997	2.5973	1.1408	1.6464
2.5	7.0	705DER2R5SGV	3.44	140	220	140	220	6.076	0.02	2.3736	3.0947	1.3317	1.7362
2.5	10.0	106DER2R5SGV	5	100	150	100	150	8.681	0.03	2.7957	3.6841	1.6103	2.1221
2.5	10.0	106DER2R5STV	4.81	100	160	100	160	8.681	0.03	2.4887	2.8294	1.3439	1.5279
2.5	22.0	226DER2R5SKV	8.59	60	100	60	100	19.097	0.06	2.6639	3.7993	1.0462	1.4921
2.5	30.0	306DER2R5SKW	12.1	40	70	40	70	26.042	0.07	3.1486	4.3174	1.2954	1.7763
2.5	50.0	506DER2R5SLZ	17.3	30	50	30	50	43.403	0.16	3.061	4.2641	1.058	1.4737
2.5	100.0	107DER2R5SBG	27.8	25	35	25	35	86.806	0.3	4.4379	5.0746	1.0955	1.2527
2.5	100.0	107DER2R5SLB	27.8	25	35	25	35	86.806	0.3	4.1613	5.6854	1.0273	1.4035
2.5	150.0	157DER2R5SCP	34.1	22	30	22	30	130.207	0.55	3.8523	4.8229	0.7396	0.926
2.5	200.0	207DER2R5SDH	7.4	20	25	20	25	173.611	0.7	4.4075	4.9122	0.7616	0.8488
2.5	250.0	257DER2R5SDP	48.1	18	22	18	22	217.014	0.8	4.4977	5.582	0.7065	0.8769
2.5	350.0	357DER2R5SEZ	70	12	15	12	15	303.819	1	4.5818	5.2631	0.754	0.8661
2.5	500.0	507DER2R5SEW	89	10	12	10	12	434.028	1.3	3.7	4.7486	0.5328	0.6838
2.5	650.0	657DER2R5SZZ	502	0.8	0.95	0.8	0.95	564.236	2.3	2.5	3.326	3.498	4.6537

SEE DGH AND DSF FOR POSSIBLE REPLACEMENT