

Type CDLC Carboncap High-Power Axial-Terminal Ultracapacitors

Large Cylindrical Type



These leading edge, low RC time constant, organic electrolyte, large cell ultracapacitors easily handle more than a million duty cycles and assemble readily into modules with screw terminals. They are especially suited for back-up and pulse power applications such as grid stabilization and wind turbine pitch control. They also excel in transportation applications like automotive subsystems, rail system power and utility vehicles.

Highlights

- Maximum Power Performance. Up to 3000 Farads
- Very Low ESR Characteristics
- Available with Threaded Terminations

Specifications

Operating Temperature Range	-40 °C to +65 °C
Storage Temperature Range	-40 °C to +70 °C
Rated Voltage Range	2.7 Vdc, 2.85 Vdc rated surge
Capacitance Range	100 F to 600 F
Capacitance Tolerance	-5% / +10%
Life at Room Temperature	10 years at rated voltage and 25 °C Capacitance change ≤20% ESR change ≤100%
Life Test	1000 h @ rated voltage and +65 °C Capacitance change ≤20% decrease from min. initial value ESR change ≤100% increase from max. initial value
Cycle Test	500,000 cycles (rated to half rated voltage at +25 °C) Capacitance change ≤20% ESR change ≤100%
Shelf Life	1000 h without voltage at +70 °C Capacitance change ≤20% from min. initial capacitance ESR change ≤100% from max. initial ESR
RoHS Compliant	

Ratings

Part Number	CDLC122P2R7K04	CDLC152P2R7K04	CDLC202P2R7K04	CDLC302P2R7K04
Terminal Configuration	Threaded	Threaded	Threaded	Threaded
Capacitance (F) (Discharge w/ constant current at 25°C)	1200	1500	2000	3000
ESR, DC (mΩ), Max	0.58	0.47	0.35	0.29
Current - Max Peak (A) (1 s discharge rate to 50% of rated Voltage)	1000	1200	1600	2200
Leakage current (mA), Max after 72 h at +25 °C	2.7	3.0	4.2	5.2
Usable Power Density, Pd (W/kg) (Per IEC 62391-2)	5800	6600	6900	5900
Usable Power (W)	1508	1848	2484	3009
Impedance match power, (W/kg)	12,000	14,000	14,000	12,000
Gravimetric energy density, Emax (Wh/kg)	4.69	5.43	5.64	5.96
Energy available (Wh) (At rated voltage)	1.22	1.52	2.03	3.04
Weight (kg)	0.26	0.28	0.36	0.51
Maximum Continuous Current (Amps) (ΔT=15°C)	70	84	110	130
Short circuit current (A)	4700	5700	7700	9300

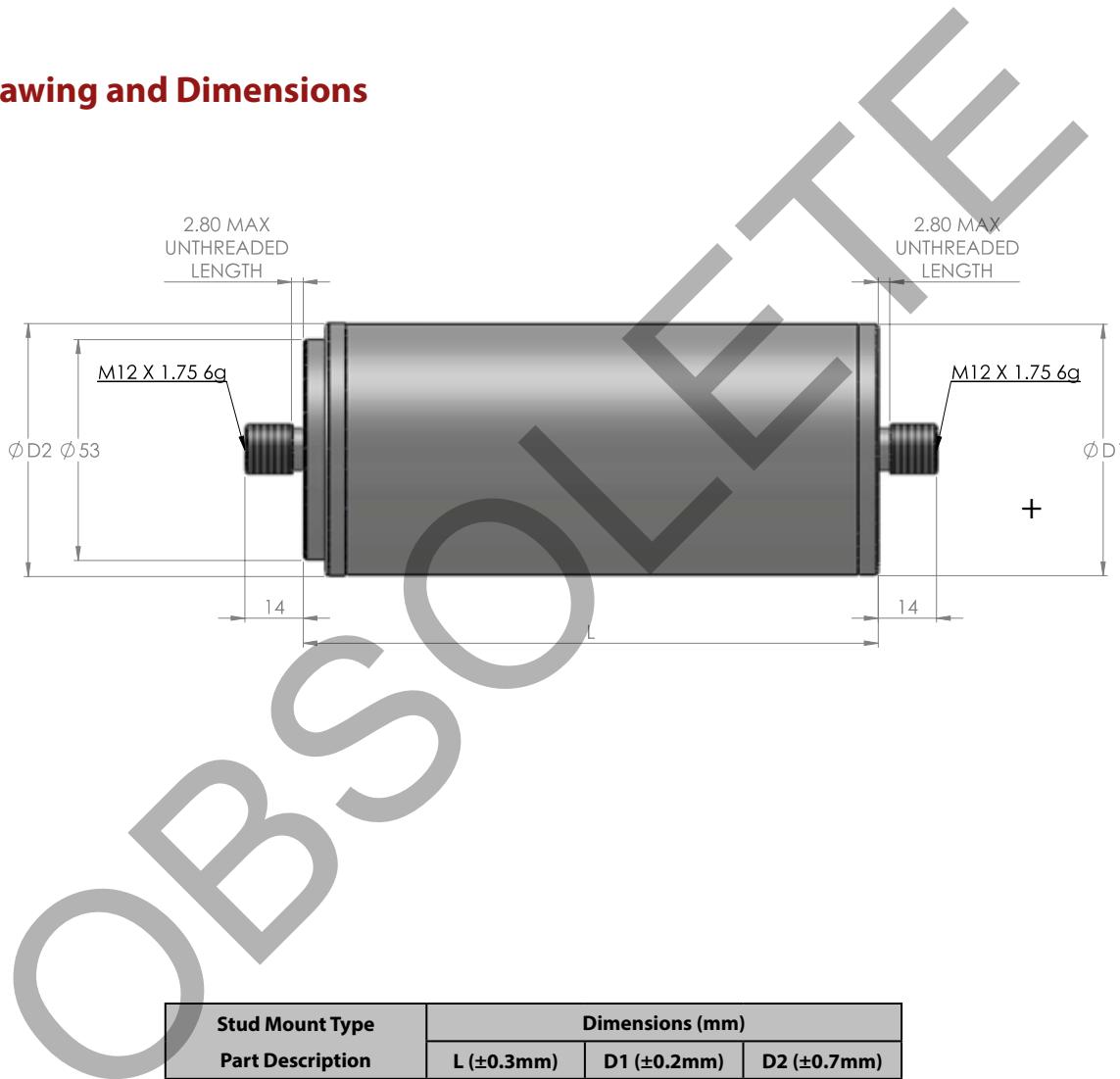
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Part Numbering System

CDLC	302	P	2R7	K04
Type	Capacitance (F)	Tolerance (%)	Voltage (V)	Configuration
CDLC - Carbon Double Layer Cell	302 = 3000	P = -0% / +20%	2R7 = 2.7	K04 = Threaded studs

Outline Drawing and Dimensions



Stud Mount Type	Dimensions (mm)		
	L ($\pm 0.3\text{mm}$)	D1 ($\pm 0.2\text{mm}$)	D2 ($\pm 0.7\text{mm}$)
CDLC122P2R7K04	74	60.4	60.7
CDLC152P2R7K04	85	60.4	60.7
CDLC202P2R7K04	102	60.4	60.7
CDLC302P2R7K04	138	60.4	60.7

Do not reverse polarity.

Certified to UL810a, File # MH48530.

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OBSOLETE