

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 (Arms) (ΔT=15°C)	70	84	110	130
Short circuit current (A)	4700	5700	7700	9300

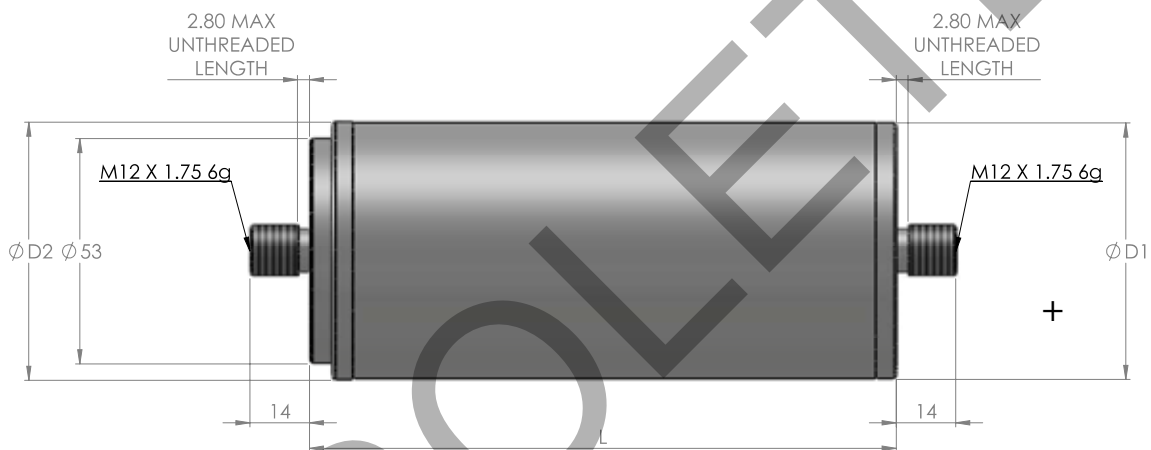
Type CDLC Carboncap High-Power Axial-Terminal Ultracapacitors

Large Cylindrical Type

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 Part Description	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.

Notice and Disclaimer: All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Cornell Dubilier:

[CDLC152P2R7K04](#) [CDLC122P2R7K04](#) [CDLC202P2R7K04](#) [CDLC302P2R7K04](#)