

## Double-Layer Capacitors in Cylindrical Metal Case with very High Capacitances in the Farad Range

### Special Features

- Storage capacitors with very high capacitance values of 110 F and 200 F and a rated voltage of 2.5 VDC
- Discharge current up to 400 A
- Maintenance-free
- With cylindrical metal case
- Series connection possible
- According to RoHS 2002/95/EC

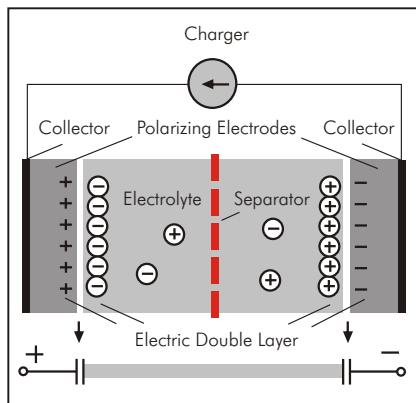
### Typical Applications

Suitable for support, protection or replacement of batteries in the field of new traction technologies in

- Automotive
- Railway technology
- Wind power systems
- Uninterruptible power systems (UPS)

### Construction

#### Internal construction:



#### Encapsulation:

Cylindrical aluminium case

#### Terminations:

Lug terminals: Solder pin / 4

#### Marking:

Colour: Black. Marking: Gold

#### 1) Requirements:

$\Delta C/CrI \leq 30\%$ ,  $ESR \leq 2$  times specified limit,  $I_{leak} \leq 2$  times of initial value.

#### 2) Test conditions:

$\Delta C/CrI \leq 30\%$ ,  $ESR \leq 2$  times specified limit,  $I_{leak} \leq 2$  times of initial value (1. cycle: charging to  $V_R$ , 30 sec rest, discharging to  $V_R/2$ , 30 sec rest).

### Technical Data

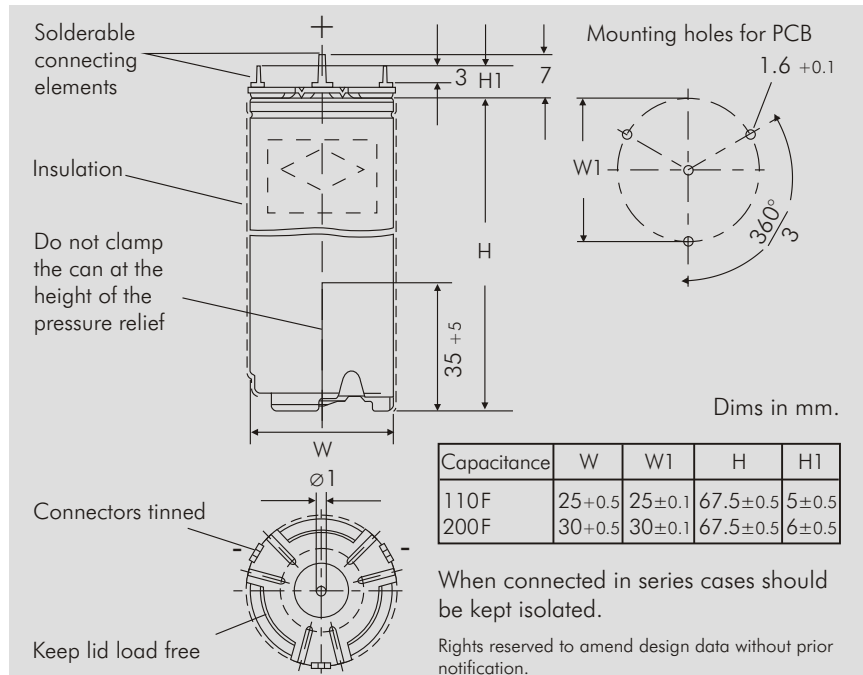
Rated capacitance:	CR	110 F	200 F
Capacitance tolerance:	-	$\pm 20\%$	$\pm 20\%$
Rated voltage:	UR	2.5 V	2.5 V
Rated current:	IC	30 A	45 A
Pulse current:	IP	up to 220 A	up to 400 A
Internal resistance:	RDC	11 m $\Omega$	6 m $\Omega$
Max. energy: $\pm 20\%$	E <sub>max.</sub>	344 J	625 J
Operating temperature:	T <sub>op</sub>	-30° C ... +65° C	
Storage temperature:	T <sub>st</sub>	-40° C ... +70° C	
Weight:	m	40 g	65 g
Volume:	v	0.034 l	0.056 l

### Additional Data

Case:	-	Al99.5	Al99.5
Lug terminals:	-	Solder pin/4	Solder pin/4

### Comparative Data

<b>Lifetime:</b>			
in hours <sup>1)</sup>	h	90 000	90 000
in cycles <sup>2)</sup>	Cycles	500 000	500 000
<b>Energy density:</b>			
gravimetric	E <sub>d</sub>	2.4 Wh/kg	2.7 Wh/kg
volumetric	E <sub>v</sub>	2.8 Wh/l	3.1 Wh/l



## Double-Layer Capacitors in Cylindrical Metal Case with very High Capacitances in the Farad Range

### Special Features

- Storage capacitors with very high capacitance values of 600 F and 2700 F and a rated voltage of 2.5 VDC
- Discharge current up to 4000 A
- Maintenance-free
- With cylindrical metal case
- Screwable terminations
- Series connection possible
- According to RoHS 2002/95/EC

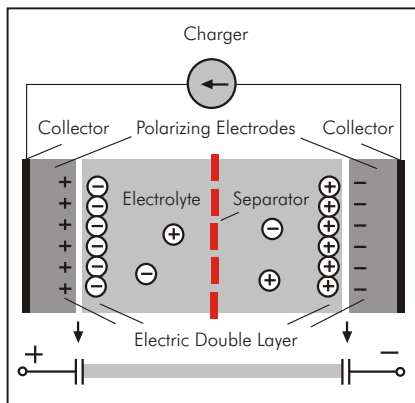
### Typical Applications

Suitable for support, protection or replacement of batteries in the field of new traction technologies in

- Automotive
- Railway technology
- Wind power systems
- Uninterruptible power systems (UPS)

### Construction

#### Internal construction:



#### Encapsulation:

Cylindrical aluminium case

#### Terminations:

Screw connection

#### Marking:

Colour: Black. Marking: Gold

#### 1) Requirements:

$\Delta C/C_{RI} \leq 30\%$ ,  $ESR \leq 2$  times specified limit,  $I_{leak} \leq 2$  times of initial value.

#### 2) Test conditions:

$\Delta C/C_{RI} \leq 30\%$ ,  $ESR \leq 2$  times specified limit,  $I_{leak} \leq 2$  times of initial value (1. cycle: charging to  $V_R$ , 30 sec rest, discharging to  $V_R/2$ , 30 sec rest).

### Technical Data

Rated capacitance:	CR	<b>600 F</b>	<b>2700 F</b>
Capacitance tolerance:	-	$\pm 20\%$	$\pm 20\%$
Rated voltage:	UR	2.5 V	2.5 V
Rated current:	IC	400 A	1000 A
Pulse current:	IP	up to 1400 A	up to 4000 A
Internal resistance:	RDC	1.3 m $\Omega$	0.4 m $\Omega$
Max. energy: $\pm 20\%$	E <sub>max.</sub>	1875 J	8438 J
Operating temperature:	T <sub>op</sub>	-30° C ... +65° C	
Storage temperature:	T <sub>st</sub>	-40° C ... +70° C	
Weight:	m	180 g	690 g
Volume:	v	0.16 l	0.53 l

### Additional Data

Case:	-	Al99.5	Al99.5
Screw terminations:	-	M8 x 12	M8 x 12

### Vergleichsangaben

Lifetime:			
in hours <sup>1)</sup>	h	90 000	90 000
in cycles <sup>2)</sup>	Cycles	500 000	500 000
Energy density:			
gravimetric	E <sub>d</sub>	2.9 Wh/kg	3.4 Wh/kg
volumetric	E <sub>v</sub>	3.3 Wh/l	4.5 Wh/l

