

Hybrid Capacitor 2.3V 10F

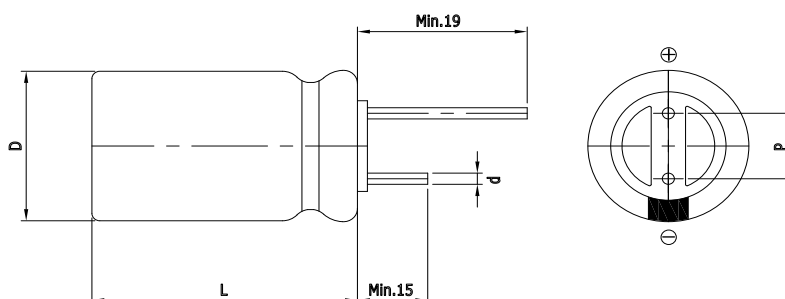


FEATURES

Characteristics of EDLC and pseudo-capacitor
 Higher capacitance, 2 times of EDLC
 Semi-permanent, quick charge and discharge than batteries
 Suitable for long-term with low current backup applications
 UL and ISO/TS certificated, RoHS compliant
 Radial design with lead terminal type



DIMENSIONS



Dimensions in mm			
D +1.0 Max	L ± 1.5	d ± 0.1	P ± 0.5
Φ10.0	20.0	Φ0.6	5.0

This drawing is not to be scaled.

SPECIFICATIONS

Part Number	Rated Voltage, V_R (V)	Rated Capacitance (F)	AC ESR 1kHz (mΩ)	DC IR (mΩ)	Maximum Current (A)	Leakage Current (mA)	Stored Energy (J)	Dimension D x L (mm)	Weight (g)
VHC 2R3 106 QG	2.3	10.	220.00	700.00	0.5	0.020	26.5	10.0 x 20.0	2.5

* Maximum Current: 60 seconds discharge to $\frac{1}{2} \cdot V_R$

* Leakage Current: After 72hours at V_R and 25 °C

Item	Characteristics	Remarks
Rated Voltage(V_R)	2.3V	Cut-off voltage: 0.9V
Capacitance Tolerance	-10 ~ +30%	
Operating Temperature ($T_{min} \sim T_{max}$)	-25 ~ +60 °C	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C After 1,000 hours application of V_R at T_{max}
Storage Temperature	-20 ~ +70 °C	
Cycle Life	100,000 cycles	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C Cycles from V_R to $\frac{1}{2} \cdot V_R$ under constant current at 25 °C
Shelf Life	2 years	$ \Delta cap \leq 10\%$ of initial value at 25 °C $ \Delta ESR \leq 50\%$ of specified value at 25 °C Without electrical charge under T_{max}



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Design and specifications are subjected to change without notice.

version 0.1 on November 02, 2015

Hybrid Capacitor 2.3V 120F

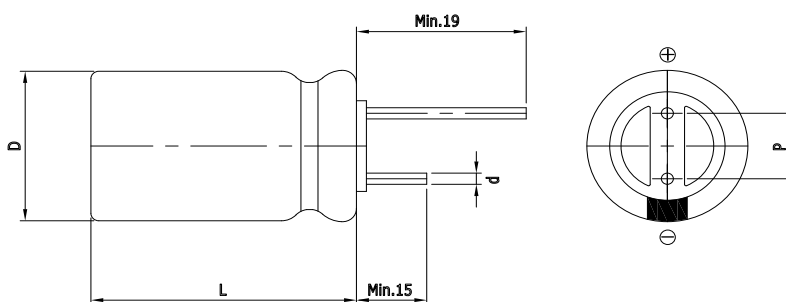


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DIMENSIONS



Dimensions in mm			
D +1.0 Max	L ± 1.5	d ± 0.1	P ± 0.5
Φ18.0	40.0	Φ0.8	7.5

This drawing is not to be scaled.

SPECIFICATIONS

Part Number	Rated Voltage, V_R (V)	Rated Capacitance (F)	AC ESR 1kHz (mΩ)	DC IR (mΩ)	Maximum Current (A)	Leakage Current (mA)	Stored Energy (J)	Dimension D x L (mm)	Weight (g)
VHC 2R3 127 QG	2.3	120.	45.00	80.00	3.	0.240	317.4	18.0 x 40.0	16.0

* Maximum Current: 60 seconds discharge to $\frac{1}{2} \cdot V_R$

* Leakage Current: After 72hours at V_R and 25 °C

Item	Characteristics	Remarks
Rated Voltage(V_R)	2.3V	Cut-off voltage: 0.9V
Capacitance Tolerance	-10 ~ +30%	
Operating Temperature ($T_{min} \sim T_{max}$)	-25 ~ +60 °C	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C After 1,000 hours application of V_R at T_{max}
Storage Temperature	-20 ~ +70 °C	
Cycle Life	100,000 cycles	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C Cycles from V_R to $\frac{1}{2} \cdot V_R$ under constant current at 25 °C
Shelf Life	2 years	$ \Delta cap \leq 10\%$ of initial value at 25 °C $ \Delta ESR \leq 50\%$ of specified value at 25 °C Without electrical charge under T_{max}



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Hybrid Capacitor 2.3V 22F

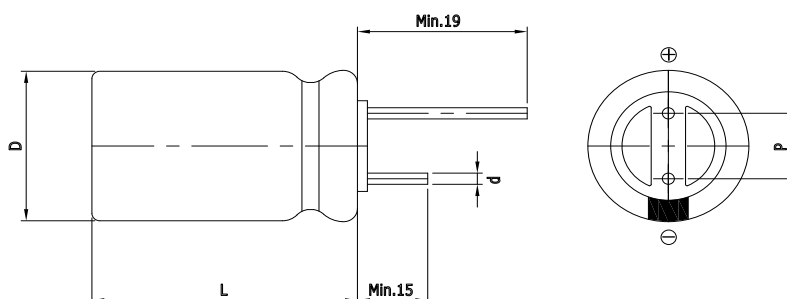


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DIMENSIONS



Dimensions in mm			
D +1.0 Max	L ± 1.5	d ± 0.1	P ± 0.5
Φ10.0	30.0	Φ0.6	5.0

This drawing is not to be scaled.

SPECIFICATIONS

Part Number	Rated Voltage, V_R (V)	Rated Capacitance (F)	AC ESR 1kHz (mΩ)	DC IR (mΩ)	Maximum Current (A)	Leakage Current (mA)	Stored Energy (J)	Dimension D x L (mm)	Weight (g)
VHC 2R3 226 QG	2.3	22.	120.00	330.00	1.	0.044	58.2	10.0 x 30.0	3.6

* Maximum Current: 60 seconds discharge to $\frac{1}{2} \cdot V_R$

* Leakage Current: After 72hours at V_R and 25 °C

Item	Characteristics	Remarks
Rated Voltage(V_R)	2.3V	Cut-off voltage: 0.9V
Capacitance Tolerance	-10 ~ +30%	
Operating Temperature ($T_{min} \sim T_{max}$)	-25 ~ +60 °C	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C After 1,000 hours application of V_R at T_{max}
Storage Temperature	-20 ~ +70 °C	
Cycle Life	100,000 cycles	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C Cycles from V_R to $\frac{1}{2} \cdot V_R$ under constant current at 25 °C
Shelf Life	2 years	$ \Delta cap \leq 10\%$ of initial value at 25 °C $ \Delta ESR \leq 50\%$ of specified value at 25 °C Without electrical charge under T_{max}



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Hybrid Capacitor 2.3V 220F

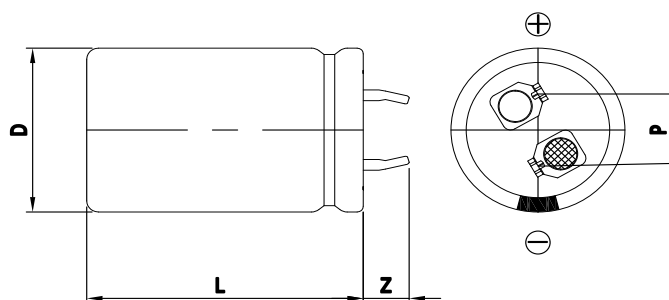


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 Radial design with 2-pin snap-in terminal type



DIMENSIONS



Dimensions in mm			
D +1.5 Max	L ± 2.0	Z ± 1.0	P ± 0.2
Φ22.0	45.0	6.0	10.0

This drawing is not to be scaled.

SPECIFICATIONS

Part Number	Rated Voltage, V_R (V)	Rated Capacitance (F)	AC ESR 1kHz (mΩ)	DC IR (mΩ)	Maximum Current (A)	Leakage Current (mA)	Stored Energy (J)	Dimension D x L (mm)	Weight (g)
VHC 2R3 227 QG	2.3	220.	30.00	45.00	3.5	0.440	581.9	22.0 x 45.0	24.8

* Maximum Current: 60 seconds discharge to $\frac{1}{2} \cdot V_R$

* Leakage Current: After 72hours at V_R and 25 °C

Item	Characteristics	Remarks
Rated Voltage(V_R)	2.3V	Cut-off voltage: 0.9V
Capacitance Tolerance	-10 ~ +30%	
Operating Temperature ($T_{min} \sim T_{max}$)	-25 ~ +60 °C	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C After 1,000 hours application of V_R at T_{max}
Storage Temperature	-20 ~ +70 °C	
Cycle Life	100,000 cycles	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C Cycles from V_R to $\frac{1}{2} \cdot V_R$ under constant current at 25 °C
Shelf Life	2 years	$ \Delta cap \leq 10\%$ of initial value at 25 °C $ \Delta ESR \leq 50\%$ of specified value at 25 °C Without electrical charge under T_{max}



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version 0.1 on November 03, 2015

Hybrid Capacitor 2.3V 300F

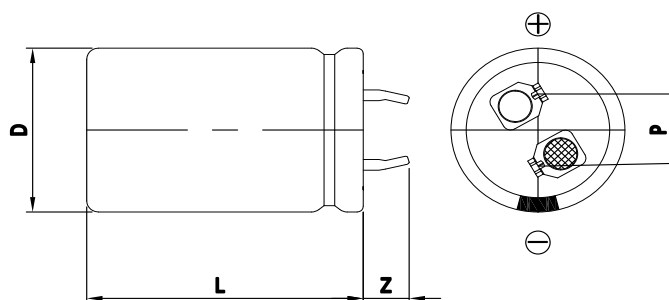


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DIMENSIONS



Dimensions in mm			
D +1.5 Max	L ± 2.0	Z ± 1.0	P ± 0.2
Φ22.0	45.0	6.0	10.0

This drawing is not to be scaled.

SPECIFICATIONS

Part Number	Rated Voltage, V_R (V)	Rated Capacitance (F)	AC ESR 1kHz (mΩ)	DC IR (mΩ)	Maximum Current (A)	Leakage Current (mA)	Stored Energy (J)	Dimension D x L (mm)	Weight (g)
VHC 2R3 307 QG	2.3	300.	30.00	50.00	4.5	0.600	793.5	22.0 x 45.0	25.2

* Maximum Current: 60 seconds discharge to $\frac{1}{2} \cdot V_R$

* Leakage Current: After 72hours at V_R and 25 °C

Item	Characteristics	Remarks
Rated Voltage(V_R)	2.3V	Cut-off voltage: 0.9V
Capacitance Tolerance	-10 ~ +30%	
Operating Temperature ($T_{min} \sim T_{max}$)	-25 ~ +60 °C	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C After 1,000 hours application of V_R at T_{max}
Storage Temperature	-20 ~ +70 °C	
Cycle Life	100,000 cycles	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C Cycles from V_R to $\frac{1}{2} \cdot V_R$ under constant current at 25 °C
Shelf Life	2 years	$ \Delta cap \leq 10\%$ of initial value at 25 °C $ \Delta ESR \leq 50\%$ of specified value at 25 °C Without electrical charge under T_{max}



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version 0.1 on November 02, 2015

Hybrid Capacitor 2.3V 50F

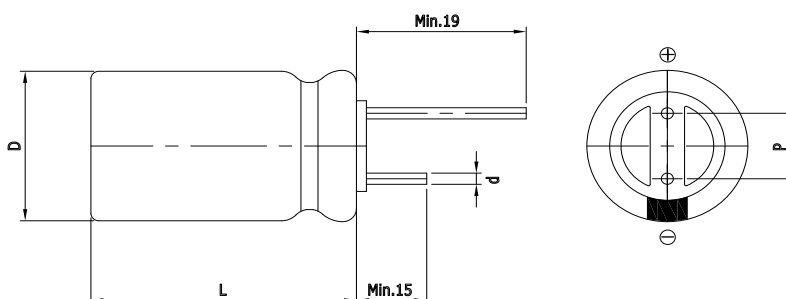


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DIMENSIONS



Dimensions in mm			
D +1.0 Max	L ± 1.5	d ± 0.1	P ± 0.5
Φ16.0	25.0	Φ0.8	7.5

This drawing is not to be scaled.

SPECIFICATIONS

Part Number	Rated Voltage, V_R (V)	Rated Capacitance (F)	AC ESR 1kHz (mΩ)	DC IR (mΩ)	Maximum Current (A)	Leakage Current (mA)	Stored Energy (J)	Dimension D x L (mm)	Weight (g)
VHC 2R3 506 QG	2.3	50.	60.00	160.00	1.5	0.100	132.3	16.0 x 25.0	8.5

* Maximum Current: 60 seconds discharge to $\frac{1}{2} \cdot V_R$

* Leakage Current: After 72hours at V_R and 25 °C

Item	Characteristics	Remarks
Rated Voltage(V_R)	2.3V	Cut-off voltage: 0.9V
Capacitance Tolerance	-10 ~ +30%	
Operating Temperature ($T_{min} \sim T_{max}$)	-25 ~ +60 °C	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C After 1,000 hours application of V_R at T_{max}
Storage Temperature	-20 ~ +70 °C	
Cycle Life	100,000 cycles	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C Cycles from V_R to $\frac{1}{2} \cdot V_R$ under constant current at 25 °C
Shelf Life	2 years	$ \Delta cap \leq 10\%$ of initial value at 25 °C $ \Delta ESR \leq 50\%$ of specified value at 25 °C Without electrical charge under T_{max}



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Hybrid Capacitor 2.3V 800F

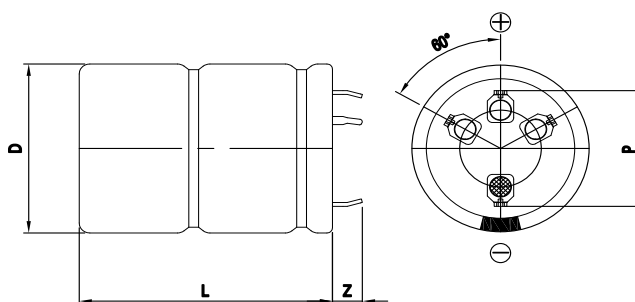


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 Radial design with 4-pin snap-in terminal type



DIMENSIONS



Dimensions in mm			
D +1.5 Max	L ± 2.0	Z ± 1.0	P ± 0.2
Φ35.0	72.0	6.0	23.0

This drawing is not to be scaled.

SPECIFICATIONS

Part Number	Rated Voltage, V_R (V)	Rated Capacitance (F)	AC ESR 1kHz (mΩ)	DC IR (mΩ)	Maximum Current (A)	Leakage Current (mA)	Stored Energy (J)	Dimension D x L (mm)	Weight (g)
VHC 2R3 807 QG	2.3	800.	10.00	15.00	12.5	1.600	2,116.0	35.0 x 72.0	94.5

* Maximum Current: 60 seconds discharge to $\frac{1}{2} \cdot V_R$

* Leakage Current: After 72hours at V_R and 25 °C

Item	Characteristics	Remarks
Rated Voltage(V_R)	2.3V	Cut-off voltage: 0.9V
Capacitance Tolerance	-10 ~ +30%	
Operating Temperature ($T_{min} \sim T_{max}$)	-25 ~ +60 °C	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C After 1,000 hours application of V_R at T_{max}
Storage Temperature	-20 ~ +70 °C	
Cycle Life	100,000 cycles	$ \Delta cap \leq 30\%$ of initial value at 25 °C $ \Delta ESR \leq 100\%$ of specified value at 25 °C Cycles from V_R to $\frac{1}{2} \cdot V_R$ under constant current at 25 °C
Shelf Life	2 years	$ \Delta cap \leq 10\%$ of initial value at 25 °C $ \Delta ESR \leq 50\%$ of specified value at 25 °C Without electrical charge under T_{max}



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