

4.0V Low Leakage Lithium Hybrid Supercapacitors



AHCR-S04R0S

Request Samples



Check Inventory



Various Sizes

RoHS/RoHS II Compliant

MSL Level = 1

Features

- High Energy density of over 50Wh/Kg
- Low Leakage Current as small as 1μA
- Low Self-discharge rate, 72 hours @ discharge <5%
- Excellent cycle life of >50K cycles
- Green, meet RoHS requirements.

Applications

- Power Assist Circuits
- Power Backup
- Micro Energy Storage
- IoT Energy Harvesting
- SSD applications
- DDR power back up
- RTC System power transfer to battery backup

Electrical Specifications

Part Number	Operating Voltage (U _R)	Capacitance	Tolerance	DC ESR (Max)	Continuous Current (Max)	Peak Current (Max)	Leakage Current	Stored Energy (Max)	Gravimetric Energy Density
AHCR-S04R0S	DC(V)	Farads	-10% / +30%	mΩ	A	A	mA	Wh	Wh/kg
AHCR-S04R0SA106Q	4.0V	10	Q	1000	0.04	0.21	0.001	0.022	13.54
AHCR-S04R0SA206Q	4.0V	20	Q	600	0.08	0.42	0.002	0.044	18.06
AHCR-S04R0SA306Q	4.0V	30	Q	500	0.13	0.63	0.003	0.067	23.21
AHCR-S04R0SA406Q	4.0V	40	Q	400	0.17	0.83	0.003	0.089	27.08
AHCR-S04R0SA506Q	4.0V	50	Q	360	0.21	1.04	0.003	0.111	27.08
AHCR-S04R0SA806Q	4.0V	80	Q	300	0.33	1.67	0.004	0.178	37.36
AHCR-S04R0SA107Q	4.0V	100	Q	240	0.42	2.08	0.004	0.222	33.85
AHCR-S04R0SA127Q	4.0V	120	Q	200	0.50	2.50	0.005	0.267	32.50
AHCR-S04R0SA187Q	4.0V	180	Q	140	0.75	3.75	0.006	0.400	39.31
AHCR-S04R0SA227Q	4.0V	220	Q	100	0.92	4.58	0.006	0.489	39.72
AHCR-S04R0SA307Q	4.0V	300	Q	90	1.25	6.25	0.007	0.667	45.14
AHCR-S04R0SA387Q	4.0V	380	Q	80	1.58	7.92	0.008	0.844	44.75
AHCR-S04R0SA457Q	4.0V	450	Q	70	1.88	9.38	0.009	1.000	43.53
AHCR-S04R0SA757Q	4.0V	750	Q	50	3.12	15.62	0.012	1.667	48.36
AHCR-S04R0SA857Q	4.0V	850	Q	40	3.54	17.71	0.013	1.889	48.99
AHCR-S04R0SA128Q	4.0V	1200	Q	30	5.00	25.00	0.015	2.667	50.78

Operating Temperature: -20°C to +65°C

Storage: Temperature 10°C to +50°C, RH<60%, Max. Humidity <85% RH

Test Conditions: +25°C

All parameters are measured according to the IEC 62813 standard.

Capacitance and ESR are measured with $I(\text{mA}) = 8(C \cdot U_R)$

Continuous Current: 1C

Peak Current (Max.): 50C

Leakage Current: Measured after 72h at U_R

Lower Voltage Threshold: 2.5V



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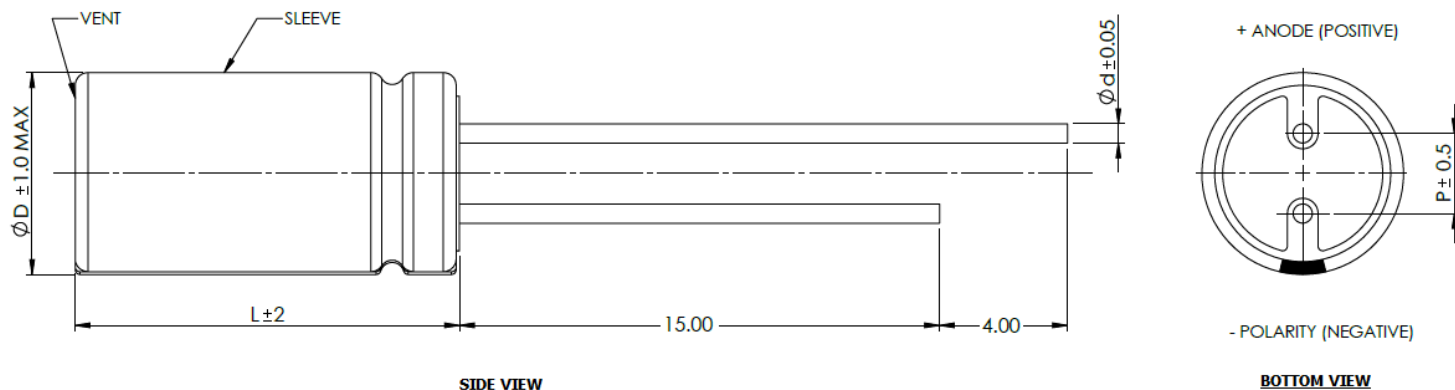


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MSL Level = 1

Mechanical Specifications



Dimensions	D	L	P	d
AHCR-S04R0SA106Q	6.3±1.0	12.0	2.5±0.5	0.6±0.05
AHCR-S04R0SA206Q	8.0±1.0	12.0	3.5±0.5	0.6±0.05
AHCR-S04R0SA306Q	8.0±1.0	16.0	3.5±0.5	0.6±0.05
AHCR-S04R0SA406Q	8.0±1.0	20.0	3.5±0.5	0.6±0.05
AHCR-S04R0SA506Q	8.0±1.0	25.0	3.5±0.5	0.6±0.05
AHCR-S04R0SA806Q	10.0±1.0	20.0	5.0±0.5	0.7±0.05
AHCR-S04R0SA107Q	10.0±1.0	25.0	5.0±0.5	0.7±0.05
AHCR-S04R0SA127Q	12.5±1.0	20.0	5.0±0.5	0.7±0.05
AHCR-S04R0SA187Q	12.5±1.0	25.0	5.0±0.5	0.7±0.05
AHCR-S04R0SA227Q	12.5±1.0	30.0	5.0±0.5	0.7±0.05
AHCR-S04R0SA307Q	16.0±1.0	25.0	7.5±0.5	0.8±0.05
AHCR-S04R0SA387Q	16.0±1.0	30.0	7.5±0.5	0.8±0.05
AHCR-S04R0SA457Q	16.0±1.0	35.0	7.5±0.5	0.8±0.05
AHCR-S04R0SA757Q	18.0±1.0	40.0	7.5±0.5	0.8±0.05
AHCR-S04R0SA857Q	18.0±1.0	45.0	7.5±0.5	0.8±0.05
AHCR-S04R0SA128Q	18.0±1.0	60.0	7.5±0.5	0.8±0.05

Dimensions: mm



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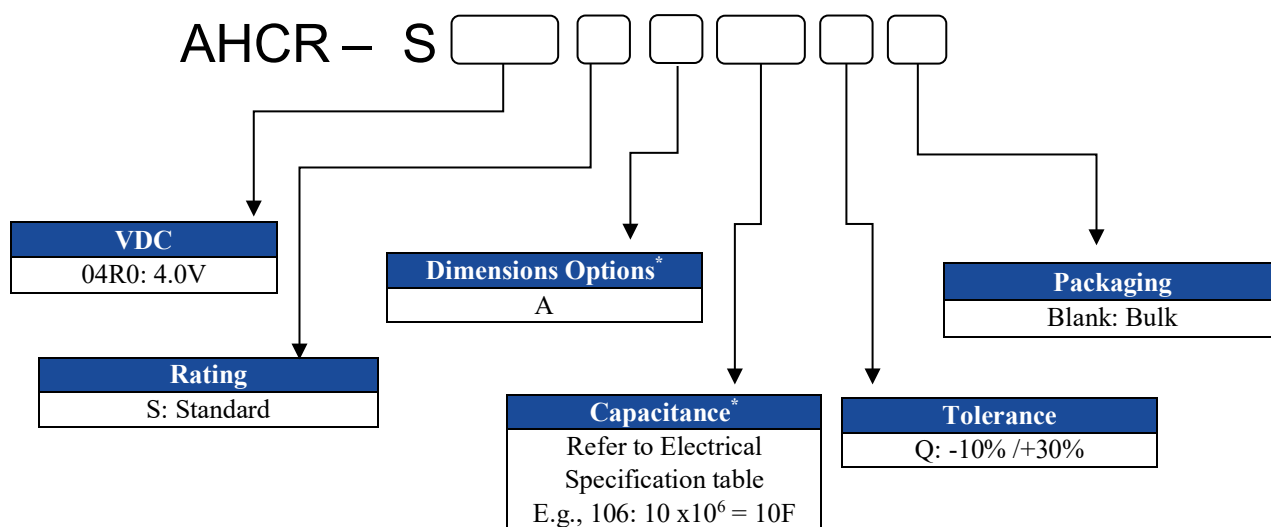


Various Sizes

RoHS/RoHS II Compliant

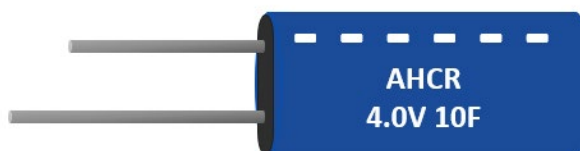
MSL Level = 1

Part Number Identification



*Only part numbers listed in the Electrical Specs table are available. For custom builds, please contact us.

Part Marking



Example of the Markings of a 10.0F 4.0V capacitor

Capacitance (F)

Rated Voltage (V)

Polarity (negative bar on the sleeve to indicate the cathode)



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4.0V Low Leakage Lithium Hybrid Supercapacitors



AHCR-S04R0S

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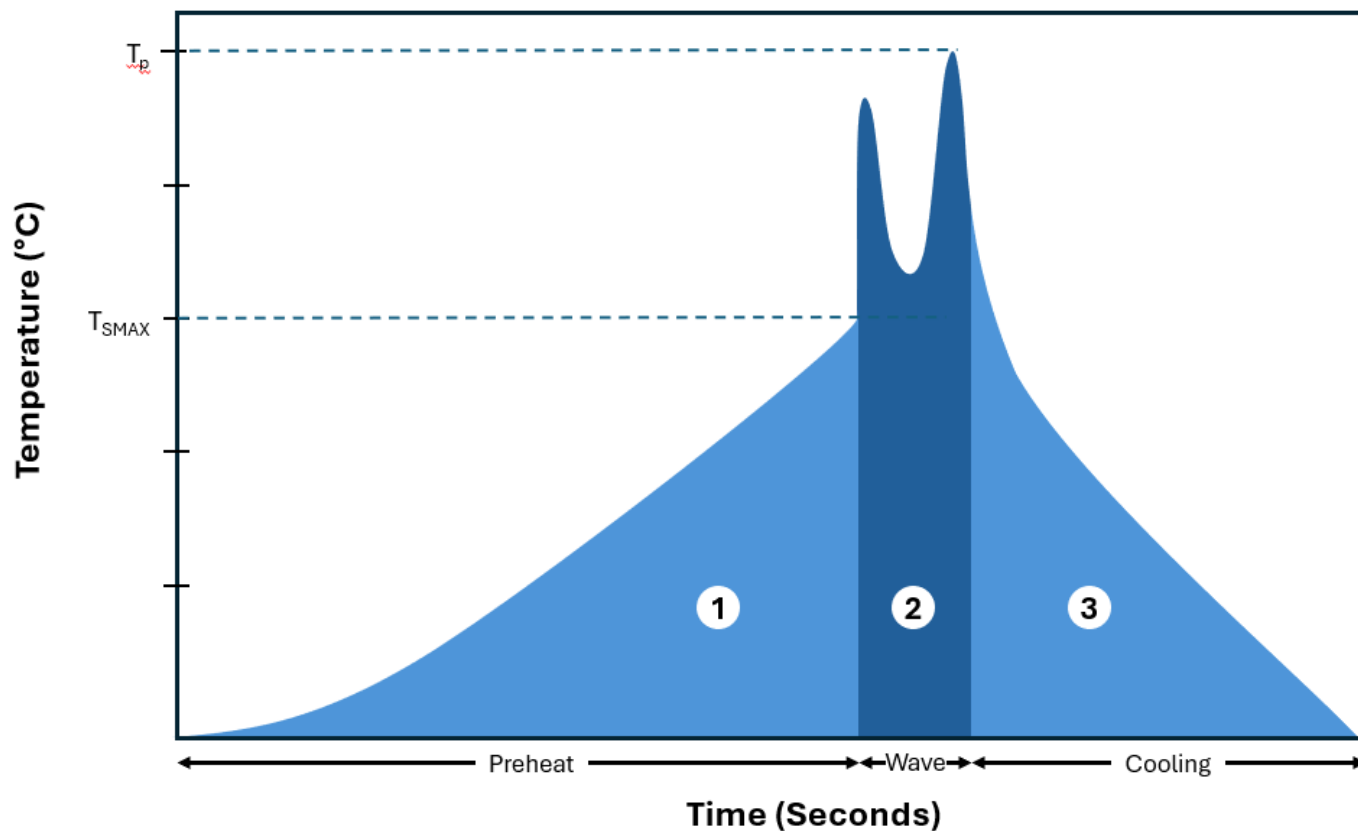


Various Sizes

RoHS/RoHS II Compliant

MSL Level = 1

Wave Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 25°C ~ 130°C	80 sec. MAX
	Preheat Rate	$T_{PREHEAT}$ +4°C/Sec MAX	
2	Wave Temperature	T_w 245°C ~ 260°C	10 sec. MAX Dual wave
	Wave Peak Temperature	T_p 260°C	5 sec. MAX/wave
3	Cooling Rate	$T_{COOLING}$	-5°C/Sec MAX



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4.0V Low Leakage Lithium Hybrid Supercapacitors



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Various Sizes

RoHS/RoHS II Compliant

MSL Level = 1

Packaging

Product is packaged in a carton containing multiple inner boxes, each containing several trays.

Part Number	SPQ	Pcs/Tray
AHCR-S04R0SA106Q	600	50
AHCR-S04R0SA206Q	600	50
AHCR-S04R0SA306Q	600	50
AHCR-S04R0SA406Q	600	50
AHCR-S04R0SA506Q	600	50
AHCR-S04R0SA806Q	700	50
AHCR-S04R0SA107Q	400	40
AHCR-S04R0SA127Q	600	60
AHCR-S04R0SA187Q	400	40
AHCR-S04R0SA227Q	400	40
AHCR-S04R0SA307Q	600	60
AHCR-S04R0SA387Q	320	40
AHCR-S04R0SA457Q	320	40
AHCR-S04R0SA757Q	280	40
AHCR-S04R0SA857Q	210	30
AHCR-S04R0SA128Q	210	30

The AHCR family are hybrid supercapacitors and must be shipped with a small charge. The contacts must not touch other capacitors, or possible damage may occur. If the order quantity is less than 1 full tray, the tray must be cut to accommodate the order quantity while maintaining each capacitor within its own cavity. Do not place in bag.

Transport of Product

This product is not subject to US DOT or IATA regulations UN3499 since maximum stored energy is below 10Wh and can be considered Non-Hazardous Goods.

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf (COTS, which are designed, intended and validated for use in commercial, industrial and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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