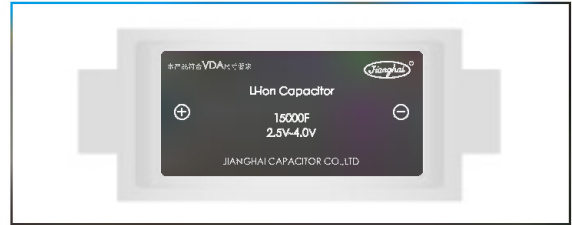


Typical application 典型应用

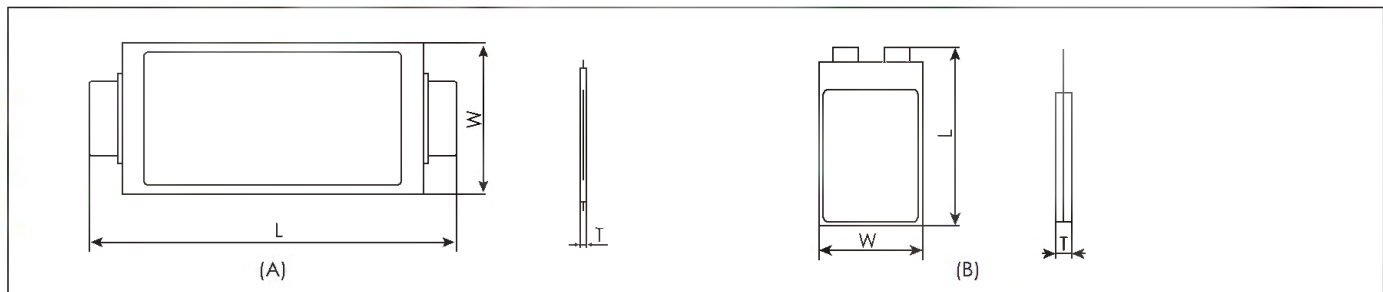
- Pure electric bus 纯电动公交车
- Tunnel locomotive, mining locomotive 隧道机车、矿用机车
- Port truck 码头车
- Rail transit 轨道交通
- Smart power grids 智能电网
- Wind power, solar and other renewable energy storag 风电、光伏等可再生能源储能
- Ferry, sightseeing car, golf cart ,AGV and RGV 渡轮、观光车、高尔夫球车、AGV及RGV
- Emergency UPS 应急后备电源
- Hybrid power driven engineering machinery and harbor machinery 混合动力工程机械及港口机械
- Electric tools 电动工具
- Other high power and high energy applications 其他对功率和能量要求比较高的工况应用



Items 项目	Characteristics 特性		
Rated Voltage 额定电压	2.5~4.0V		
Operating Temperature Rang 工作温度范围	-25~+55°C		
Surge Voltage 浪涌电压	4.35 V		
Capacitance Range 容量范围	3000~20000 F		
Capacitance Tolerance 容差范围(25°C)	M: -20~+20%		
Temperature Characteristics 温度特性	The specifications shall be met at category temperature range from -25°C to 55°C 在-25°C至55°C温度范围内, 应满足规范	Capacitance change 容量变化	Within 50% of the initial value at 25°C 在25°C时初始值的50%以内
		ESR _{AC} change 交流内阻变化	Not more than 4 times of the initial specified value at 25°C 不超过25°C时初始规定值的4倍
High Temperature Loaded 高温负荷	The specifications shall be met after rated voltage applied at 55°C for 1000 hours 在55°C温度下, 以额定电压恒压1000h后, 应满足规范	Capacitance change 容量变化	Within 20% of the initial value 在初始值的20%以内
		ESR _{AC} change 交流内阻变化	Not more than 2 times of the initial specified value 不超过初始规定值的2倍
High Temperature Storage 高温存储	The specifications shall be met after storage at 55°C for 1000 hours 在55°C 温度下, 储存1000h后, 应满足规范	Capacitance change 容量变化	Within 20% of the initial value 在初始值的20%以内
		ESR _{AC} change 交流内阻变化	Not more than 2 times of the initial specified value 不超过初始规定值的2倍
Cycle Life 循环寿命	The specifications shall be met after 50,000 cycles at 25°C, cycle of charge /discharge from 2.5~4.0V 在25°C 温度下, 2.5~4.0V充放电循环50000次后, 应满足规范	Capacitance change 容量变化	Within 20% of the initial value 在初始值的20%以内
		ESR _{AC} change 交流内阻变化	Not more than 2 times of the initial specified value 不超过初始规定值的2倍

Dimensions 尺寸

mm



Ratings for HAE Series HAE 系列额定值

U _s (Surge Voltage) Code 额定电压 (浪涌电压) 代码	Rated Capacitance 额定容量 25°C (*)	Storage Energy 储存能量 25 °C	Impedance 内阻		Rated Current 额定电流	Self-discharge 自放电 (72hrs)	Dimension 尺寸 (L*W*T)	P/N 产品代码
			ESR _{DC} 直流内阻	ESR _{AC} 交流内阻 (1KHz)				
(V)	(F)	(Wh)	(mΩ)	(mΩ)	(A)	(V)	(mm)	-
4.0 (4.35) 4R0	3000	5.95	≤6.5	≤3.5	8	≥3.92	100×60×9.2(B)	SCCHAE4R0308M
	7500	15.3	≤2.2	≤1.8	18.75	≥3.92	176×115×7.9(A)	SCCHAE4R0758M
	10000	18.5	≤2.5	≤1.5	25	≥3.92	300×123×5.2(A)	SCCHAE4R0109M
	15000	30.0	≤1.5	≤1.2	37.5	≥3.92	300×123×8.2(A)	SCCHAE4R0159M
	17000	34.0	≤1.2	≤1.2	42.5	≥3.92	300×123×8.3(A)	SCCHAE4R0179M
	20000	42.0	≤1.1	≤1.0	50	≥3.92	300×123×10.8(A)	SCCHAE4R0209M

* Refer to 《Ultra-capacitor for electric vehicles QC/T-741-2014》 for the test method of rated cap.

*额定容量的测试方法参见《车用超级电容器 QC/T-741-2014》

*Special customization is possible.

*可以特殊定制。