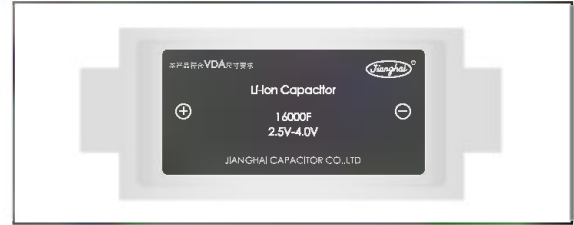


## Typical application 典型应用

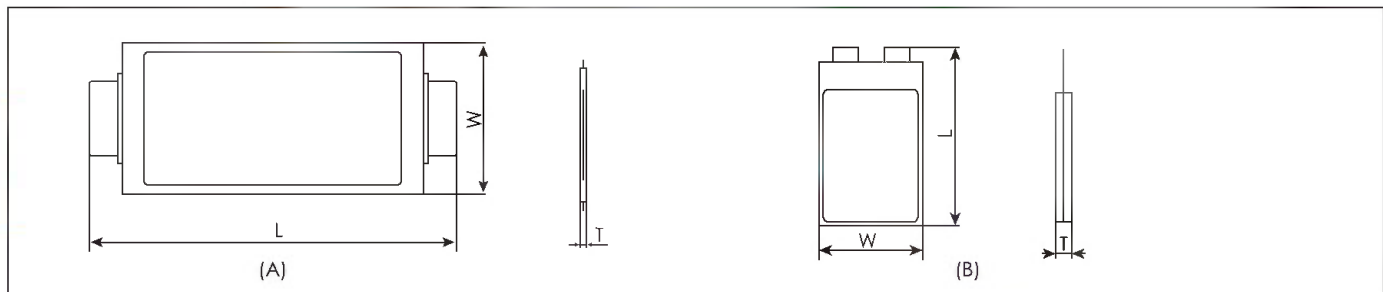
- Rail transit 轨道交通
- Smart power grids 智能电网
- Tunnel locomotive, mining locomotive 隧道机车、矿用机车
- Port truck 码头车
- Pure electric bus 纯电动公交车
- Ferry, sightseeing car, golf cart, AGV and RGV 渡轮、观光车、高尔夫球车、AGV及RGV
- Energy saving elevator 节能电梯
- Hybrid power driven engineering machinery and harbor machinery 混合动力工程机械及港口机械
- Emergency UPS 应急后备电源
- Electric tools 电动工具
- Wind power, solar and other renewable energy storage 风电、光伏等可再生能源储能
- 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℃		
Surge Voltage 浪涌电压	4.35 V		
Capacitance Range 容量范围	1000~16000 F		
Capacitance Tolerance 容差范围(25℃)	M: -20~+20%		
Temperature Characteristics 温度特性	The specifications shall be met at category temperature range from -25℃ to 55℃ 在-25℃至55℃温度范围内, 应满足规范	Capacitance change 容量变化	Within 50% of the initial value at 25℃ 在25℃时初始值的50%以内
		ESR <sub>AC</sub> change 交流内阻变化	Not more than 4 times of the initial specified value at 25℃ 不超过25℃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℃ for 1000 hours 在55℃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 <sub>AC</sub> 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℃ for 1000 hours 在55℃ 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 <sub>AC</sub> 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℃, cycle of charge /discharge from 2.5~4.0V 在25℃ 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 <sub>AC</sub> 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 HAA Series HAA 系列额定值**

U <sub>s</sub> (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 <sub>DC</sub> 直流内阻	ESR <sub>AC</sub> 交流内阻 (1KHz)				
(V)	(F)	(Wh)	(mΩ)	(mΩ)	(A)	(V)	(mm)	-
4.0 (4.35) 4R0	1000	1.36	≤20	≤9	5	≥3.92	100×71×3.0(B)	SCCHAA4R0108M
	2000	2.92	≤10	≤6	10	≥3.92	100×71×5.5(B)	SCCHAA4R0208M
	3200	4.65	≤6.5	≤3.2	16	≥3.92	100×60×9.0(B)	SCCHAA4R0328M
	6000	8.10	≤4.5	≤3.0	30	≥3.92	300×123×3.5(A)	SCCHAA4R0608M
	10000	13.20	≤1.8	≤1.2	50	≥3.92	300×123×5.2(A)	SCCHAA4R0109M
	16000	22.00	≤1.5	≤1.2	50	≥3.92	300×123×8.0(A)	SCCHAA4R0169M

\*Note: Special customization is possible.

\*注: 可以特殊定制。