

BMW 微型模组系列

BMW Small Module Series

特点 Features

- 低漏电, 长寿命 Low leakage current, long life
- 高能量、大功率 High power, high energy density
- 免维护 Maintenance-free
- 模组定制, 满足不同需求 Module customized to meet different requirement



应用 Application

- 智能仪表 Smart meters
- 智能家电 Intelligent home appliance
- 电动玩具 Electronic toy

产品规格 Specifications

项目 Item	性能 Performance	
额定电压 Rated voltage	5.5 V; 6.0 V; 7.5 V	
容量范围 Nominal cap. range	0.33 F ~ 50 F	
容量偏差 Capacitance tolerance	-20% ~ +50%; -20% ~ +20%	
工作温度 Operating temperature	5.5 V、7.5 V: -40°C ~ +70°C; 6.0 V: -40°C ~ +65°C	
循环寿命 Cycle life characteristics	在25°C下, 以恒定电流使电容器在额定电压和半额定电压间循环充放电(>500,000次)。 Capacitors charge-discharge between rated voltage and half rated voltage under constant current at +25°C, (>500,000 cycles)	
	容量变化 Capacitance change	≤ 初始值的30%; ≤ 30% of initial value
	内阻变化 Internal resistance	≤ 初始规格值的2倍; ≤ 2 times of initial specified value
外观变化 Appearance	无明显变化; No apparent change	
	高温负荷寿命 High temperature load time	温度 Temperature: 5.5 V、7.5 V: +70°C; 6.0 V: +65°C 电压 Voltage: 额定电压 Rated voltage 测试时长 Duration of testing: 5.5 V、7.5 V: 1,500(+48)hrs; 6.0 V: 1,000(+48)hrs
	容量变化 Capacitance change	≤ 初始值的30%; ≤ 30% of initial value
内阻变化 Internal resistance	≤ 初始规格值的2倍; ≤ 2 times of initial specified value (5.5 V、7.5 V) ≤ 初始规格值的3倍; ≤ 3 times of initial specified value (6.0 V)	
	外观变化 Appearance	无明显变化; No apparent change
	温度特性 Temperature characteristics	温度 Temperature: T ± 2°C (-40°C ≤ T ≤ +70°C) 测试时长 Duration of storage: 12hrs 无负载 Non-loaded
容量变化 Capacitance change	≤ 初始值的30%; ≤ 30% of initial value	
	内阻变化 Internal resistance	≤ 初始规格值的2倍; ≤ 2 times of initial specified value
	外观变化 Appearance	无明显变化; No apparent change
湿度特性 Humidity characteristic	电压 Voltage: 额定电压 Rated voltage 相对湿度 Relative humidity: 90%~95% 测试时长 Duration of testing: 240hrs 温度 Temperature: 40 ± 2°C	
	容量变化 Capacitance change	≤ 初始值的30%; ≤ 30% of initial value
	内阻变化 Internal resistance	≤ 初始规格值的2倍; ≤ 2 times of initial specified value
外观变化 Appearance	无明显变化; No apparent change	
	抗振性 Vibration resistance	振幅 Amplitude: 1.5mm 频率 Frequency: 10~55Hz 方向 Direction: X,Y,Z(2hrs) 测试时长 Duration of testing: 6hrs
	容量变化 Capacitance change	≤ 初始值的30%; ≤ 30% of initial value
内阻变化 Internal resistance	≤ 初始规格值的2倍; ≤ 2 times of initial specified value	
外观变化 Appearance	无明显变化; No apparent change	

典型产品 Standard Products

• 5.5V-2串 /2 cells in series connection

产品编码 Part number	额定电压 Rated Voltage (V)	标称容量 Rated Cap. (F)	尺寸 Size W × D × L (mm)	最大等值阻抗 Max. ESR		最大工作电流 Maximum Continuous Current(A) ($\Delta T=15^{\circ}\text{C}$)	最大峰值电流 Maximum Peak Current (A)	最大漏电流 Maximum Leakage Current (72hrs/mA)	功率密度 Power Density (W/kg)	最大能量 Maximum Energy (W.h)	能量密度 Energy Density (Wh/kg)
				ESR _{AC} (1kHz/m Ω)	ESR _{DC} IEC法 (m Ω)						
BMW5R5X474MA0814	5.5	0.47	16 × 8 × 14	320	480	0.47	1.05	0.006	3601	0.0020	0.94
BMW5R5S105MA0814		1.0	16 × 8 × 14	320	480	0.47	1.86	0.006	3288	0.0042	1.83
BMW5R5S105MA0818		1.0	16 × 8 × 18	240	360	0.61	2.02	0.010	4201	0.0042	1.75
BMW5R5S155MA0822		1.5	16 × 8 × 22	200	300	0.74	2.84	0.012	4172	0.0063	2.17
BMW5R5S255MA0827		2.5	16 × 8 × 27	180	270	0.87	4.10	0.015	3447	0.0105	2.69
BMW5R5S255MA1018		2.5	20 × 10 × 18	180	270	0.80	4.10	0.015	3056	0.0105	2.39
BMW5R5S255MA1022		2.5	20 × 10 × 22	150	225	0.97	4.40	0.015	3361	0.0105	2.19
BMW5R5M355MA1022		3.5	20 × 10 × 22	150	225	0.97	5.38	0.020	3361	0.0147	3.06
BMW5R5M505MA1027		5.0	20 × 10 × 27	120	180	1.20	7.24	0.030	3667	0.0210	3.82
BMW5R5M505MA1032		5.0	20 × 10 × 32	90	135	1.51	8.21	0.030	4074	0.0210	3.18
BMW5R5M505MA1B22		5.0	25 × 13 × 22	90	135	1.42	8.21	0.030	3634	0.0210	2.84
BMW5R5M755MA1B27		7.5	25 × 13 × 27	80	120	1.66	9.59	0.040	3929	0.0252	3.27
BMW5R5M755MA1B32		7.5	25 × 13 × 32	70	105	1.93	11.54	0.052	3841	0.0315	3.50
BMW5R5M106MA1B32		10	25 × 13 × 32	70	105	1.93	13.42	0.055	3841	0.0420	4.67
BMW5R5M106MA1B37		10	25 × 13 × 37	60	90	2.23	14.47	0.056	3507	0.0420	3.65
BMW5R5M1B6MA1627		12.5	32 × 16 × 27	50	75	2.41	17.74	0.068	3103	0.0525	3.37
BMW5R5M156MA1632		15	32 × 16 × 32	40	60	2.92	21.71	0.075	3517	0.0630	3.66
BMW5R5M206MA1837		20	36 × 18 × 37	36	54	3.52	26.44	0.088	2988	0.0840	3.73
BMW5R5M256MA1842		25	36 × 18 × 42	32	48	3.96	31.25	0.105	2875	0.1050	3.99
BMW5R5M306MA1842		30	36 × 18 × 42	30	45	4.09	35.11	0.145	2881	0.1260	4.50
BMW5R5M506MA1862	50	36 × 18 × 62	26	39	5.30	46.61	0.240	2165	0.2101	4.89	

• 7.5V-3串 /3 cells in series connection

产品编码 Part number	额定电压 Rated Voltage (V)	标称容量 Rated Cap. (F)	尺寸 Size W × D × L (mm)	最大等值阻抗 Max. ESR		最大工作电流 Maximum Continuous Current(A) ($\Delta T=15^{\circ}\text{C}$)	最大峰值电流 Maximum Peak Current (A)	最大漏电流 Maximum Leakage Current (72hrs/mA)	功率密度 Power Density (W/kg)	最大能量 Maximum Energy (W.h)	能量密度 Energy Density (Wh/kg)
				ESR _{AC} (1kHz/m Ω)	ESR _{DC} IEC法 (m Ω)						
BMW7R5S334MB0814	7.5	0.33	24 × 8 × 14	480	720	0.38	1.00	0.006	3125	0.0026	0.86
BMW7R5S604MB0818		0.6	24 × 8 × 18	360	540	0.50	1.70	0.010	3472	0.0047	1.30
BMW7R5S105MB0822		1.0	24 × 8 × 22	300	450	0.61	2.59	0.012	3488	0.0078	1.82

典型产品 Standard Products

• 6.0V-2串 / 2 cells in series connection

产品编码 Part number	额定电压 Rated Voltage (V)	标称容量 Rated Cap. (F)	尺寸 Size		最大等值阻抗 Max. ESR		最大工作电流 Maximum Continuous Current(A) ($\Delta T=15^{\circ}C$)	最大峰值电流 Maximum Peak Current (A)	最大漏电流 Maximum Leakage Current (72hrs/mA)	功率密度 Power Density (W/kg)	最大能量 Maximum Energy (W.h)	能量密度 Energy Density (Wh/kg)
			W × D × L (mm)	ESR _{AC} (1kHz/m Ω)	ESR _{DC} IEC法 (m Ω)							
BMW6R0X474MA0814	6.0	0.47	16 × 8 × 14	320	480	0.47	1.15	0.007	4286	0.0024	1.12	
BMW6R0S105MA0818		1.0	16 × 8 × 18	240	360	0.61	2.21	0.012	4762	0.0050	1.98	
BMW6R0S155MA0822		1.5	16 × 8 × 22	200	300	0.74	3.10	0.014	4729	0.0075	2.46	
BMW6R0S255MA0827		2.5	16 × 8 × 27	180	270	0.87	4.48	0.018	3907	0.0125	3.05	
BMW6R0S255MA1022		2.5	20 × 10 × 22	150	225	0.97	4.80	0.018	3810	0.0125	2.48	
BMW6R0M355MA1022		3.5	20 × 10 × 27	140	210	1.00	6.05	0.020	3956	0.0175	3.37	
BMW6R0M505MA1027		5.0	20 × 10 × 27	120	180	1.20	7.89	0.036	4156	0.0250	4.33	
BMW6R0M505MA1B22		5.0	25 × 13 × 22	90	135	1.42	8.96	0.036	4118	0.0250	3.22	
BMW6R0M755MA1B27		7.5	25 × 13 × 27	80	120	1.66	11.84	0.048	4453	0.0375	4.64	
BMW6R0M106MA1B32		10	25 × 13 × 32	70	105	1.93	14.63	0.066	4354	0.0500	5.29	
BMW6R0M1B6MA1627		12.5	32 × 16 × 27	50	75	2.41	19.35	0.082	3516	0.0625	3.82	
BMW6R0M156MA1632		15	32 × 16 × 32	40	60	2.92	23.68	0.090	3987	0.0750	4.15	
BMW6R0M256MA1842		25	36 × 18 × 42	32	48	3.96	34.09	0.126	3259	0.1250	4.53	
BMW6R0M506MA1862		50	36 × 18 × 62	26	39	5.30	50.85	0.288	2453	0.2500	5.54	