

stored energy solutions for a demanding world

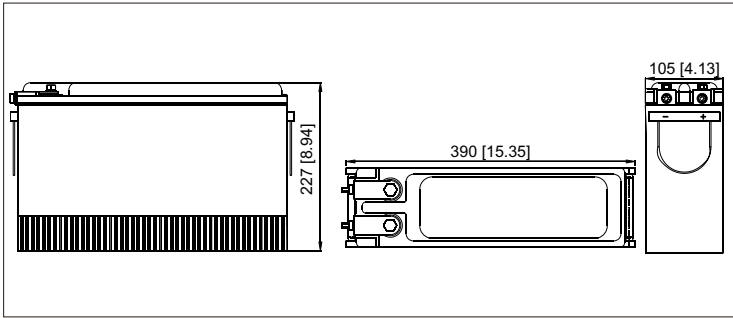


Model: **6-GFM-50F**

MP SERIES

The products are used as standby power for communication, power, military and broadcast and television system. They possess precise ABS heat seal technology between container and lid and patented post seal structure. The design float life is 12 years at 25°C (77°F).

Dimensions-mm [inch]



Specifications

Battery Model	6-GFM-50F
Nominal Voltage	12V
Rated Capacity	50Ah (10hour rate) to 1.80V/cell @25°C(77°F)
Typical Weight	20.7kg
Internal Resistance	Approx 8.32mΩ
Operating Temperature Range	Operation (maximum): -40°C to 50°C(-40°F to 122°F)
	Operation (recommended): 15°C to 25°C(59°F to 77°F)
	Storage: -20°C to 40°C(-4°F to 104°F)
Float Voltage	2.25V/cell@25°C(77°F)
Recommended Maximum Charging Current Limit	12.5A
Equalize and Cycle Service	2.35V~2.40V/cell@25°C(77°F)
Self Discharge	The residual capacity is above 90% after 90 days storage(25°C/77°F)
Terminal	M6 Female
Terminal Hardware Torque	8 ± 1.0Nm
Container Material	ABS (V0 optional)

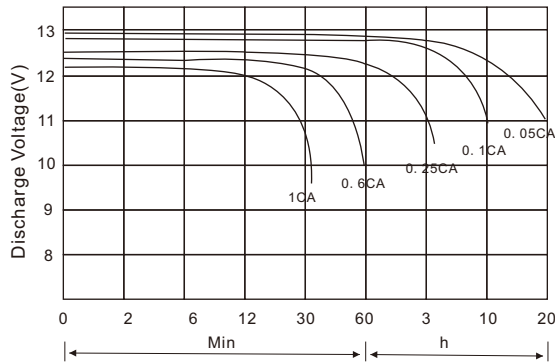
Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)

End voltage per cell	5min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.60V	163	87.4	53.0	38.4	31.0	17.8	13.9	10.7	9.60	8.06	6.26	5.15	4.38	2.72	2.27
1.67V	153	84.3	52.0	38.1	30.8	17.7	13.7	10.6	9.50	8.02	6.19	5.08	4.33	2.70	2.25
1.70V	151	82.8	51.3	37.8	30.6	17.6	13.6	10.6	9.40	8.02	6.19	5.09	4.29	2.69	2.25
1.75V	139	80.2	50.8	37.5	30.2	17.1	13.4	10.5	9.30	7.96	6.13	5.05	4.29	2.68	2.25
1.80V	125	74.8	48.7	36.0	29.4	17.0	13.4	10.4	9.05	7.80	6.09	5.00	4.26	2.66	2.24
1.83V	119	68.5	47.7	34.8	28.1	16.7	12.9	9.94	8.76	7.53	5.94	4.81	4.08	2.65	2.21
1.85V	111	66.4	44.4	33.4	27.2	16.1	12.6	9.81	8.55	7.37	5.75	4.78	4.06	2.60	2.19

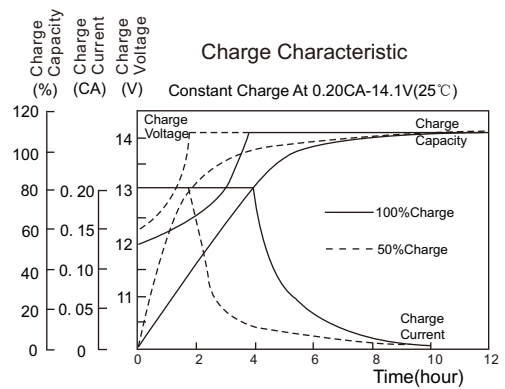
Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)

End voltage per cell	5min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.60V	272	153	95.7	72.0	58.3	33.6	26.5	20.5	18.4	15.5	12.2	9.98	8.47	5.38	4.51
1.67V	262	151	94.9	71.6	58.0	33.5	26.1	20.5	18.3	15.5	12.0	9.90	8.41	5.37	4.51
1.70V	260	149	94.9	71.4	57.8	33.3	26.1	20.4	18.1	15.5	12.0	9.85	8.33	5.35	4.50
1.75V	243	148	94.5	71.3	57.0	33.2	25.9	20.4	18.0	15.4	11.9	9.82	8.32	5.34	4.50
1.80V	227	140	92.3	69.6	56.8	33.1	25.8	20.3	17.6	15.3	11.9	9.78	8.30	5.34	4.49
1.83V	219	128	91.2	67.5	54.5	32.7	25.2	19.6	17.3	14.8	11.8	9.53	8.13	5.33	4.46
1.85V	207	125	84.7	64.8	52.8	31.6	24.5	19.3	16.8	14.5	11.4	9.46	8.08	5.23	4.42

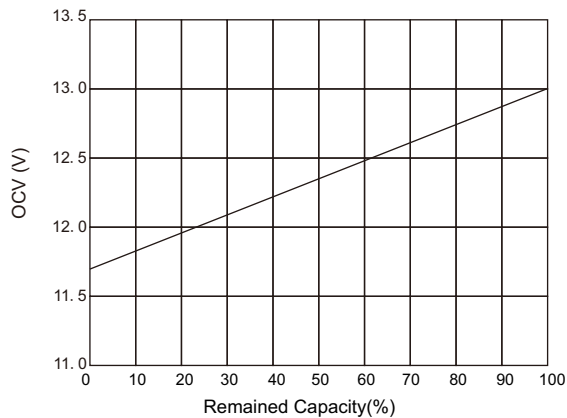
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



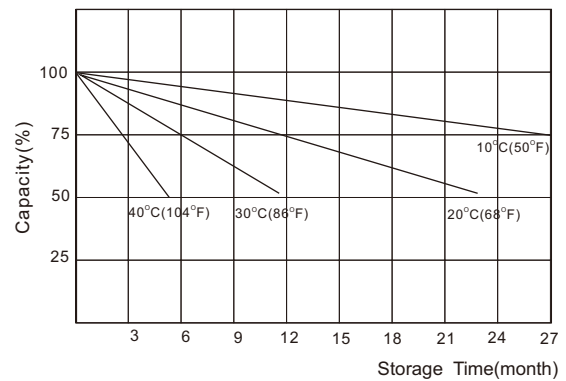
Battery Voltage Vs. Charge Time



Relationship of OCV Vs. State of Charge



Capacity Retention Characteristic



Charging Procedures

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle	25°C	2.40	2.35~2.45	0.25C
Standby	25°C	2.25	2.23~2.27	

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/Cell	1.80	1.70	1.55	1.30
Discharge Current (A)	0.2C ≥ (A)	0.2C < (A) < 0.5C	0.5C < (A) < 1.0C	(A) > 1.0C

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