

stored energy solutions for a demanding world

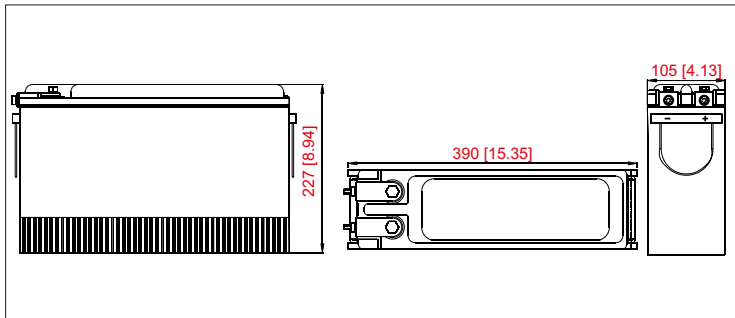


Model: **MPG12V50F**

MPG series

The MPG range VRLA batteries adopt flat plates with gel electrolyte and are designed with front terminal structure. The perfect design ensures MPG series battery the high reliability and makes the installation quite simple and safe when placed on a standard relay rack tray or in a closed cabinet. MPG range VRLA battery is designed with high energy density and suitable for 19", 23" rack or cabinet, and also offers options of top connection and side of monoblocs connection. MPG range battery can be equipped with central gas collection system according to the requirement of customer.

**Dimensions-mm[inch]**



**Specifications**

Battery Model	MPG12V50F
Nominal Voltage	12V
Rated Capacity	50Ah (10hour rate) to 1.80V/cell @25°C(77°F)
Typical Weight	20.7kg
Internal Resistance	Approx 8.39mΩ
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)

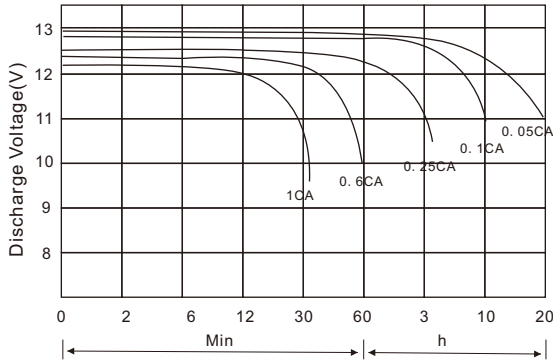
**Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)**

End voltage per cell	5min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.60V	164	88	53	39	31.2	17.9	14.0	10.8	9.6	8.1	6.3	5.2	4.40	2.73	2.28
1.67V	154	85	52	38	31.0	17.8	13.8	10.7	9.5	8.1	6.2	5.1	4.35	2.71	2.26
1.70V	152	83	52	38	30.8	17.7	13.7	10.7	9.4	8.1	6.2	5.1	4.31	2.70	2.26
1.75V	140	81	51	38	30.4	17.2	13.5	10.6	9.3	8.0	6.2	5.1	4.31	2.69	2.26
1.80V	126	75	49	36	29.6	17.1	13.5	10.5	9.1	7.8	6.1	5.0	4.28	2.67	2.25
1.83V	120	69	48	35	28.3	16.8	13.0	10.0	8.8	7.6	6.0	4.8	4.10	2.66	2.22
1.85V	112	67	45	34	27.4	16.2	12.7	9.9	8.6	7.4	5.8	4.8	4.08	2.61	2.20

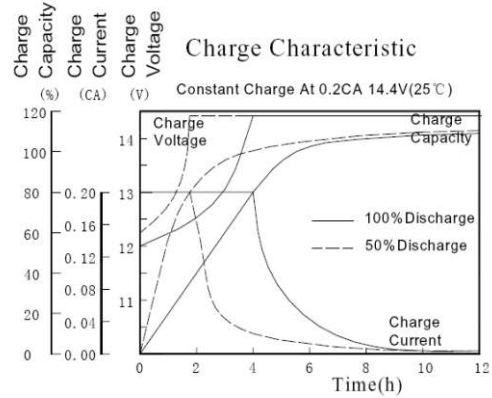
**Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)**

End voltage per cell	5min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.60V	274	154	96	73	58.8	33.8	26.6	20.6	18.5	15.6	12.3	10.0	8.51	5.41	4.53
1.67V	264	152	96	72	58.5	33.7	26.2	20.6	18.4	15.6	12.1	9.9	8.45	5.40	4.53
1.70V	262	150	96	72	58.3	33.5	26.2	20.5	18.2	15.6	12.1	9.9	8.37	5.38	4.52
1.75V	245	149	95	72	57.5	33.4	26.0	20.5	18.1	15.5	12.0	9.9	8.36	5.37	4.52
1.80V	229	141	93	70	57.3	33.3	25.9	20.4	17.7	15.4	12.0	9.8	8.34	5.37	4.51
1.83V	221	129	92	68	54.9	32.9	25.3	19.7	17.4	14.9	11.9	9.6	8.17	5.36	4.48
1.85V	209	126	85	65	53.2	31.8	24.6	19.4	16.9	14.6	11.5	9.5	8.12	5.26	4.44

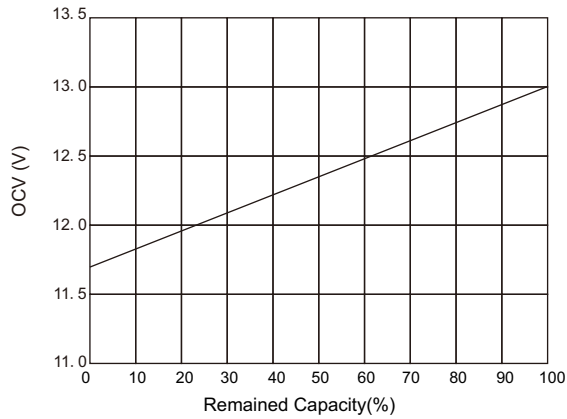
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



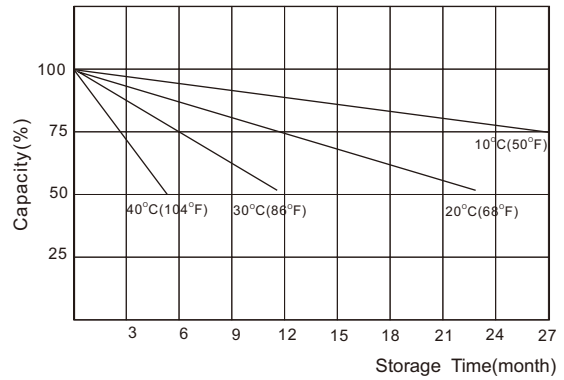
Battery Voltage Vs. Charge Time



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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