

GPL12520

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	225	155	116	67.2	38.5	27.7	21.7	15.2	9.66	6.35	5.17	2.66
1.67V	208	144	110	64.7	38.1	27.4	21.4	15.0	9.57	6.31	5.15	2.65
1.70V	195	138	108	63.6	37.8	27.3	21.3	14.9	9.53	6.28	5.14	2.64
1.75V	177	128	103	61.2	37.0	26.7	20.7	14.7	9.44	6.17	5.08	2.60
1.80V	159	119	95.7	58.7	35.7	26.0	20.3	14.3	9.22	6.04	4.94	2.56
1.85V	142	110	89.3	55.6	33.3	24.8	19.0	13.5	8.71	5.74	4.69	2.43

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	2392	1684	1290	770	447	325	250	176	114	74.7	61.6	31.7
1.67V	2176	1589	1235	748	445	323	247	175	113	74.4	61.2	31.6
1.70V	2081	1540	1208	737	443	322	246	174	112	74.2	60.7	31.4
1.75V	1914	1449	1160	710	434	315	242	171	111	73.9	60.3	31.3
1.80V	1747	1359	1093	683	419	308	235	169	110	72.4	59.5	30.7
1.85V	1584	1258	1031	649	395	295	223	161	105	69.6	56.7	29.4

GPL12750

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	298	198	149	87.5	53.5	38.8	30.9	21.9	14.5	9.57	7.85	4.15
1.67V	274	191	146	86.7	53.2	38.6	30.7	21.7	14.4	9.46	7.78	4.13
1.70V	265	187	144	86.1	52.4	38.1	30.5	21.5	14.3	9.40	7.76	4.11
1.75V	234	170	139	84.4	51.4	37.4	29.9	21.4	14.1	9.38	7.63	4.04
1.80V	210	158	131	81.9	50.2	36.8	29.5	21.0	13.8	9.17	7.55	3.97
1.85V	183	145	118	77.0	47.5	34.9	28.1	20.3	13.5	8.88	7.26	3.82

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	3013	2127	1654	1003	614	456	370	261	173	116	93.5	49.7
1.67V	2818	2060	1635	996	612	452	365	260	172	115	92.9	49.4
1.70V	2729	2022	1609	994	610	450	363	259	171	114	92.7	49.3
1.75V	2553	1927	1558	976	603	447	361	257	170	113	92.3	49.0
1.80V	2371	1815	1478	949	592	440	356	254	168	111	91.0	48.7
1.85V	2075	1667	1348	904	572	422	341	245	162	107	87.5	47.1

GPL12880

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	349	232	175	103	62.8	45.5	36.3	25.6	17.0	11.3	9.21	4.87
1.67V	321	225	171	102	62.4	45.2	36.0	25.5	16.9	11.2	9.12	4.84
1.70V	311	219	169	101	61.4	44.8	35.7	25.2	16.8	11.1	9.10	4.83
1.75V	274	199	163	99.0	60.3	43.9	35.1	25.1	16.6	11.0	8.96	4.74
1.80V	246	186	154	96.1	58.8	43.1	34.6	24.6	16.2	10.8	8.85	4.66
1.85V	215	170	138	90.3	55.8	41.0	32.9	23.8	15.8	10.4	8.51	4.48

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	3535	2496	1941	1177	720	535	434	306	203	136	110	58.3
1.67V	3307	2417	1919	1169	719	531	428	305	202	135	109	57.9
1.70V	3202	2373	1888	1166	716	529	426	304	201	134	108	57.8
1.75V	2995	2261	1828	1145	707	524	424	301	200	132	107	57.5
1.80V	2782	2129	1734	1113	694	516	418	298	198	130	106	57.1
1.85V	2434	1955	1581	1061	671	495	400	287	190	125	103	55.3

GPL121000

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	423	277	212	127	73.0	52.1	41.1	29.1	18.9	12.2	10.0	5.27
1.67V	375	266	207	125	72.4	51.7	40.7	29.0	18.8	12.1	9.93	5.22
1.70V	355	258	203	124	71.8	51.4	40.6	28.7	18.6	12.0	9.88	5.20
1.75V	317	240	194	120	71.1	50.9	40.2	28.6	18.5	11.9	9.81	5.19
1.80V	283	219	183	115	68.9	49.6	39.3	27.9	18.2	11.8	9.66	5.09
1.85V	245	196	164	106	65.2	47.2	37.6	26.8	17.4	11.4	9.45	4.92

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)

F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	4159	2950	2331	1436	849	610	482	342	223	153	125	63.5
1.67V	4008	2837	2273	1417	843	607	480	340	222	152	124	63.3
1.70V	3863	2772	2252	1404	840	604	478	339	221	151	123	63.2
1.75V	3572	2623	2181	1372	830	599	475	337	220	150	122	62.4
1.80V	3184	2442	2049	1316	809	585	465	331	217	148	121	61.4
1.85V	2769	2227	1856	1234	767	557	444	320	210	142	117	60.0

Please refer to the official site for the latest rating confirmation. URL: www.csb-battery.com

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General Purpose Long Life  
Stability, Dependability and Reliability  
ENERGY OF INFINITY ▶

GPL series



Hitachi Chemical Energy Technology Co., Ltd.



# GPLseries

GPL-series batteries have the widest range of applications and longer design life in standby service. With VRLA technology, they are small, lightweight and offer a service life of up to 8 ~ 10 years in standby service. As with all our ISO/UL certified batteries, GPL series batteries are rechargeable, highly efficient, maintenance free, leakproof and viable in any orientation.



In accordance with ICE 61056-1/2: 2012  
or with IEC 60896-21/22: 2004  
In accordance with BS6290-4

## Features

- Optional flame-retardant container and cover complies with UL (94-V0)-28%L.O.I.
- Adopts the latest separator advances with +99% efficient gas recombination
- Reduced internal resistance for superior performance
- Flame-arresting vents for long life and safety
- Uniformed plate formation for consistent capacity
- Improved Pd-Ca-Sn alloy resists grid corrosion
- Viable in any orientation
- Low self-discharge
- No-spill design
- Maintenance-free

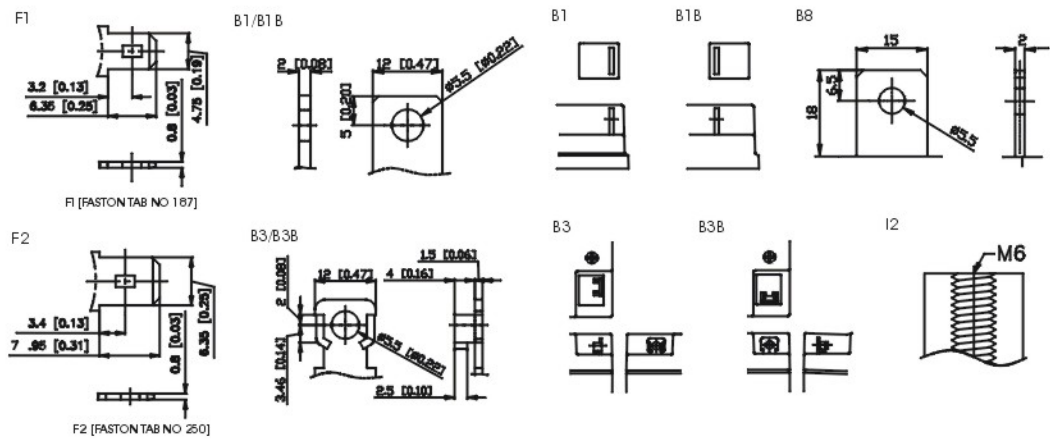
## Long Service Life :

- With nominal capacity less than 26Ah, the series battery is up to 8 years of service life in floating charge conditions at 25°C(77°F).
- With nominal capacity greater than 40Ah, the series battery is up to 10 years of service life in floating charge conditions at 25°C(77°F).

## Reliability

- Our batteries are 100% 2-cycle tested by computer charge and discharge System (CCDS).
- Our batteries are UL-recognized components under UL 1989. (File Number with MH 14533)
- ISO 9001/14001/18001 certified.

## Terminal Type



## Applications

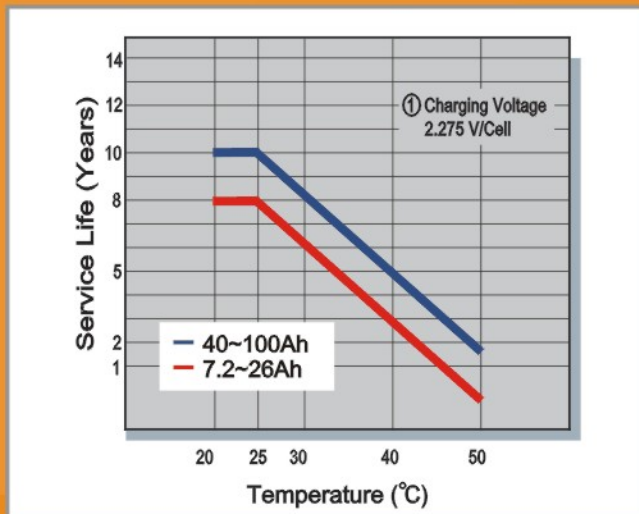
### Standby use

- CATV
- Telemeters
- UPS power supply
- Workstation UPS
- Emergency lighting equipment
- Fire alarm and security systems
- Precision instrument backup power
- Communications and electrical equipment
- Office computers, microcomputers and OA equipment
- Robots, control equipment and other FA equipment
- Replacement of open-type stationary lead acid batteries
- Emergency power supply in power plants and substations
- Telecom applications (Distributed power, PHS, cellular and broadband)

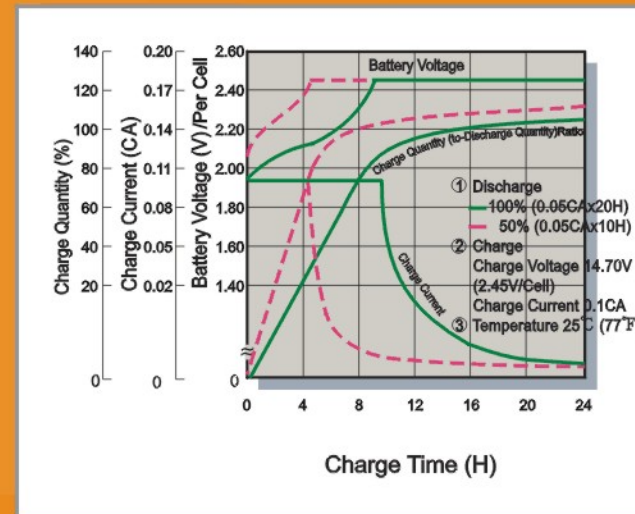
### Solar Cell Power Generation

- Street lighting
- Portable power supply
- Water pumping
- Rural power systems

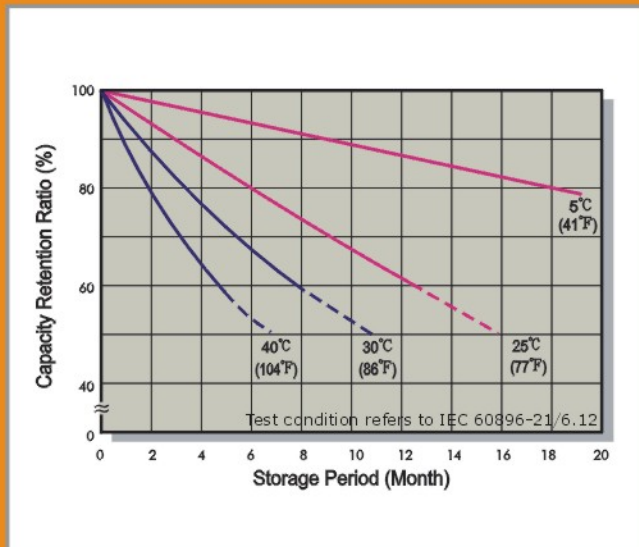
## Trickle (or Float) Service Life



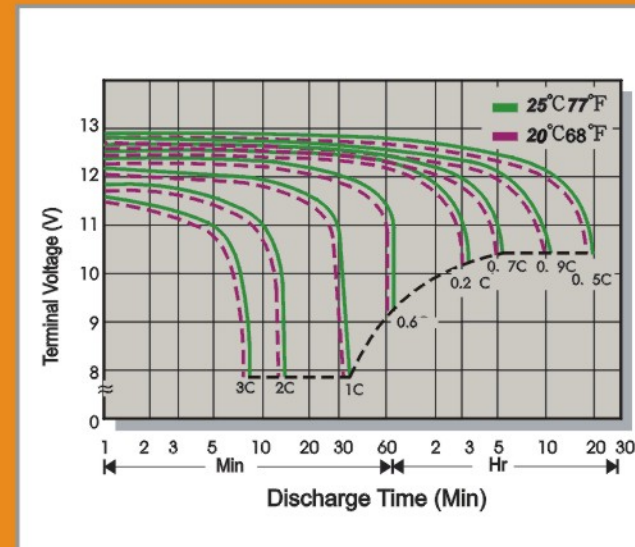
## Battery Voltage and Charge Time for Standby Use



## Capacity Retention Characteristics



## Discharge Characteristics



• The above diagrams are typical. For more detailed information please see the specific product sheets.  
• C is the capacity of 20 hour-rate while the final voltage is 1.75V per cell.  
For example, 1C discharge current of GPL1272 is 1 x 7.2 = 7.2 (A)

## Specifications

Battery Type	Nominal Voltage(V)	Nominal Capacity (Ah)*	Weight (Approx. kg)	Internal Resistance (mΩ)	Short Circuit Current (A)	Max. Discharge Current 5 sec(A)	Dimensions (mm)				Terminal Type	Bolt	Max. Charging Current(A)	Max. Screw Torque Value	
							Overall Height (H)	Container Height (h)	Length(L)	Width (W)				Kgf·cm (lbf·in)	N·m
GPL1272	12	7.2	2.60	22.0	265	100/130	98.6±1.0	94.3±1.0	150.9±2.0	64.8±1.0	F1/F2	Faston Tab 187/250	2.16	--	--
GPL12120	12	12	4.10	13.2	458	150/180	100.3±1.5	94.1±1.0	151.0±2.0	96.0±1.0	F1/F2	Faston Tab 187/250	3.60	--	--
GPL12260	12	26	8.30	9.80	662	350	125.0±1.5	125.0±1.5	166.0±2.0	175.0±1.0	B1/B3/B3B I2	M5	7.80	59.0/51.0	5.73
GPL12400	12	40	14.50	6.40	1186/1182	400	170.4±2.0	170.4±2.0	197.0±2.0	165.0±2.0	B8 I2	M5/M6	12.0	59.0/51.0/138.6/120.3	13.58
GPL12520	12	62	17.20	5.30	1485	500	206.3±2.5	201.3±2.5	228.0±2.5	138.4±1.5	I2	M6	15.6	138.6/120.3	13.58
GPL12750	12	80	25.60	4.00	1933	800	213.5±2.5	210.5±2.5	261.0±2.5	198.5±2.0	I2	M6	22.5	138.6/120.3	13.58
GPL12880	12	94	29.70	3.60	2098	800	213.6±2.5	210.6±2.5	308.7±2.5	190.0±2.0	I2	M6	26.4	138.6/120.3	13.58
GPL121000	12	100	33.50	3.30	2606	800	216.9±2.5	213.9±2.5	343.0±2.5	170.0±2.0	I2	M6	30.0	138.6/120.3	13.58

• \* Nominal Capacity 20hr-rate to 1.75V per cell @25°C (77°F)  
• Float Charge: 2.275±0.025 V/Cell at 25°C (77°F); Temp. Coefficient: -3.3mV/Cell/°C

## GPL1272

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)												
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	24.1	19.2	15.6	9.05	4.87	3.43	2.67	1.93	1.29	0.90	0.73	0.39
1.67V	23.1	18.3	14.9	8.80	4.72	3.33	2.60	1.89	1.28	0.88	0.72	0.38
1.70V	22.6	17.8	14.5	8.68	4.65	3.28	2.56	1.87	1.27	0.87	0.71	0.37
1.75V	21.8	17.0	13.9	8.45	4.52	3.20	2.50	1.82	1.23	0.86	0.70	0.36
1.80V	20.8	16.2	13.2	8.19	4.39	3.13	2.46	1.77	1.20	0.84	0.69	0.35
1.85V	19.6	15.3	12.5	7.87	4.27	3.04	2.39	1.74	1.16	0.82	0.67	0.34

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)												
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	258	210	173	103	54.0	38.1	29.8	22.0	15.3	10.5	8.78	4.46
1.67V	251	202	166	101	53.3	37.4	29.1	21.8	15.0	10.4	8.64	4.40
1.70V	247	199	162	99.3	52.9	37.1	28.8	21.6	14.9	10.2	8.57	4.36
1.75V	240	192	156	97.4	52.3	36.5	28.2	21.2	14.5	10.1	8.45	4.28
1.80V	231	185	151	95.0	51.5	35.8	27.7	20.8	14.1	10.0	8.29	4.20
1.85V	222	177	146	92.2	50.6	35.2	27.2	20.4	13.8	9.72	8.14	4.12

## GPL12120

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)												
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	45.7	32.1	23.1	13.5	7.42	5.16	3.99	2.84	1.84	1.25	1.03	0.63
1.67V	44.0	31.4	23.0	13.4	7.32	5.11	3.96	2.81	1.83	1.24	1.01	0.62
1.70V	42.8	30.8	22.6	13.2	7.27	5.08	3.94	2.80	1.81	1.23	1.00	0.61
1.75V	40.3	29.4	21.9	13.0	7.14	5.00	3.88	2.76	1.80	1.22	0.99	0.60
1.80V	37.6	27.5	20.7	12.6	6.92	4.87	3.80	2.70	1.77	1.20	0.97	0.59
1.85V	33.8	24.8	19.0	11.7	6.55	4.64	3.63	2.59	1.70	1.14	0.93	0.56

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)												
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	487	343	258	152	84.6	59.9	46.9	33.4	21.7	14.7	12.2	6.30
1.67V	475	339	255	151	84.5	59.7	46.6	33.2	21.6	14.6	12.1	6.24
1.70V	466	333	252	150	84.1	59.2	46.1	33.1	21.5	14.5	12.0	6.23
1.75V	443	322	246	149	83.5	58.9	46.0	32.9	21.4	14.4	11.8	6.19
1.80V	416	306	235	144	81.0	57.4	44.9	32.0	21.0	14.2	11.6	6.09
1.85V	380	280	217	135	77.0	54.8	43.0	30.7	20.4	13.7	11.2	5.85

## GPL12260

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)												
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	108	73.2	53.3	31.5	19.0	13.9	11.1	7.99	5.20	3.44	2.83	1.49
1.67V	100	68.4	51.5	30.9	18.6	13.7	11.0	7.86	5.14	3.41	2.81	1.48
1.70V	96.3	65.9	49.8	30.3	18.4	13.5	10.9	7.82	5.13	3.40	2.80	1.47
1.75V	88.4	61.2	47.0	29.3	17.9	13.3	10.8	7.66	5.03	3.34	2.76	1.45
1.80V	79.0	56.0	44.1	27.9	17.3	12.9	10.5	7.52	4.91	3.25	2.67	1.42
1.85V	68.9	51.0	40.4	26.3	16.6	12.4	10.1	7.14	4.66	3.11	2.56	1.36

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)												
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	1090	787	593	360	219	164	133	95.4	62.0	41.8	33.8	17.8
1.67V	1034	736	577	355	214	160	131	94.6	61.6	41.5	33.6	17.7
1.70V	992	714	556	350	213	159	130	94.3	61.5	41.0	33.5	17.6
1.75V	965	695	527	338	210	158	129	92.2	60.6	40.5	33.4	17.5
1.80V	892	643	496	323	204	155	127	91.1	59.9	39.4	32.2	17.4
1.85V	780	588	461	309	200	150	123	86.2	56.2	37.4	31.0	16.9

## GPL12400

Constant Current Discharge Characteristics Unit: A (25°C, 77°F)												
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	162	104	78.2	47.7	28.1	20.4	16.3	11.6	7.36	4.83	3.93	2.03
1.67V	145	96.5	74.5	46.7	27.9	20.3	16.2	11.5	7.34	4.77	3.85	1.94
1.70V	137	92.8	72.4	46.1	27.8	20.2	16.1	11.4	7.32	4.75	3.82	1.91
1.75V	124	87.4	69.5	45.0	27.6	20.1	16.0	11.3	7.29	4.69	3.76	1.84
1.80V	111	81.3	65.9	43.8	27.4	19.9	15.9	11.2	7.25	4.62	3.70	1.77
1.85V	98.1	75.1	62.4	42.5	27.0	19.8	15.8	11.1	7.22	4.56	3.64	1.70

Constant Power Discharge Characteristics Unit: W (25°C, 77°F)												
F.V/Time	5MIN	10MIN	15MIN	30MIN	60MIN	90MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	1941	1242	938	572	338	245	195	139	88.4	58.0	47.2	24.4
1.67V	1735	1158	895	558	335	243	194	138	88.1	57.3	46.4	23.3
1.70V	1647	1117	869	552	334	242	193	137	87.9	57.0	46.0	22.9
1.75V	1490	1049	830	539	331	241	192	136	87.5	56.3	45.2	22.1
1.80V	1334	975	791	525	328	239	191	135	87.2	55.6	44.4	21.3
1.85V	1178	902	749	510	324	238	190	134	86.7	54.8	43.7	20.6