

Hitachi Chemical

HITACHI



General Purpose Full Product Line
ENERGY OF INFINITY ▶

GP series

BATTERY

CSB



Hitachi Chemical Energy Technology Co., Ltd.

GP series

GP-series batteries have the widest range of applications. With VRLA technology, they are small, lightweight and offer a service life of up to 5 years in standby service. As with all our ISO/UL certified batteries, GP series batteries are rechargeable, highly efficient, maintenance free, leakproof and viable in any orientation.



In accordance with ICE 6 1056-1/2: 2012
or with IEC 60896-21/22: 2004
In accordance with BS6290-4

Features and Benefits :

- 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
- 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 :

- Up to 5 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.

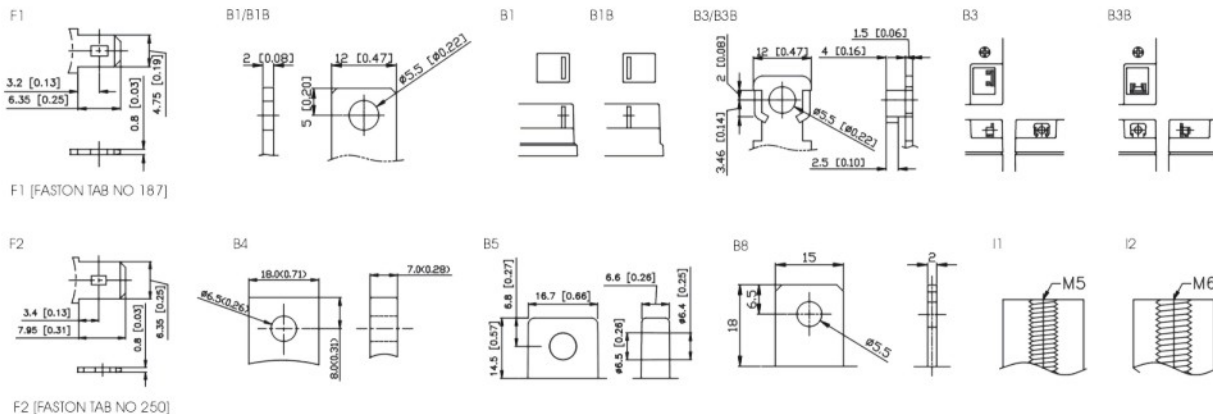
Applications :

- 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)

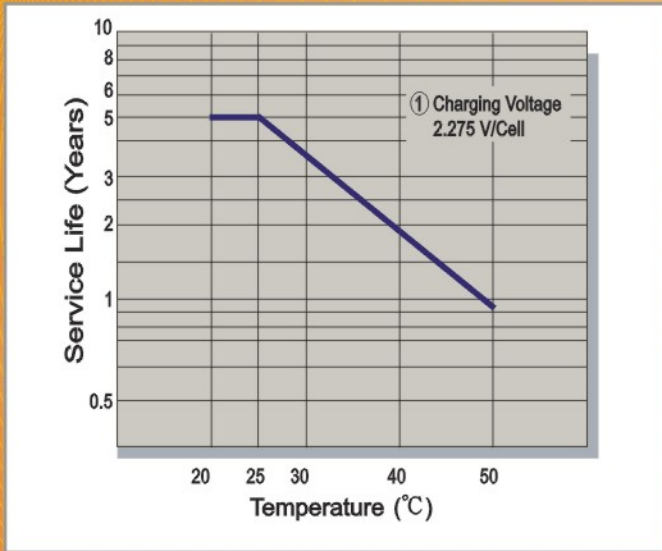
Solar Cell Power Generation

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

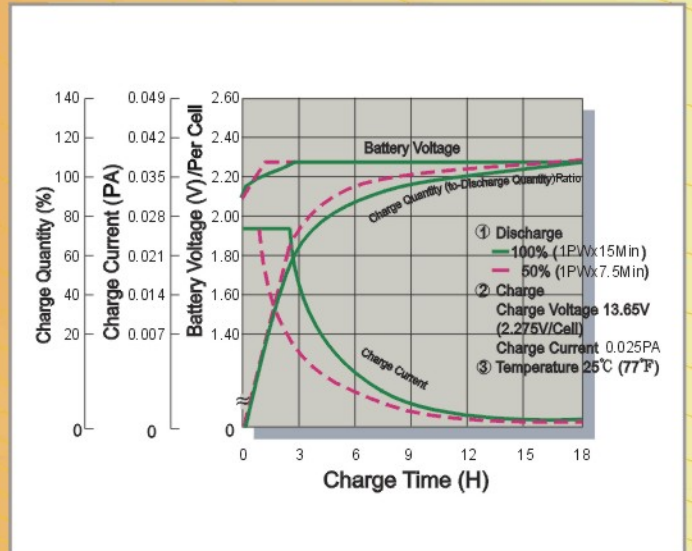
Terminal Type



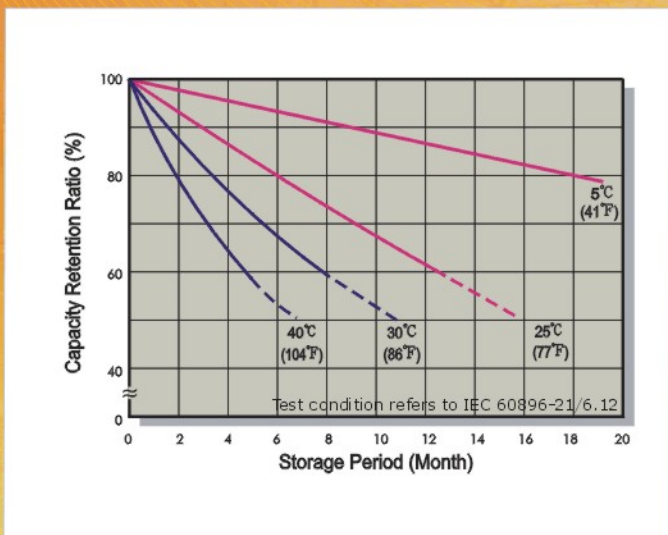
Expected Life vs. Operating Temperature



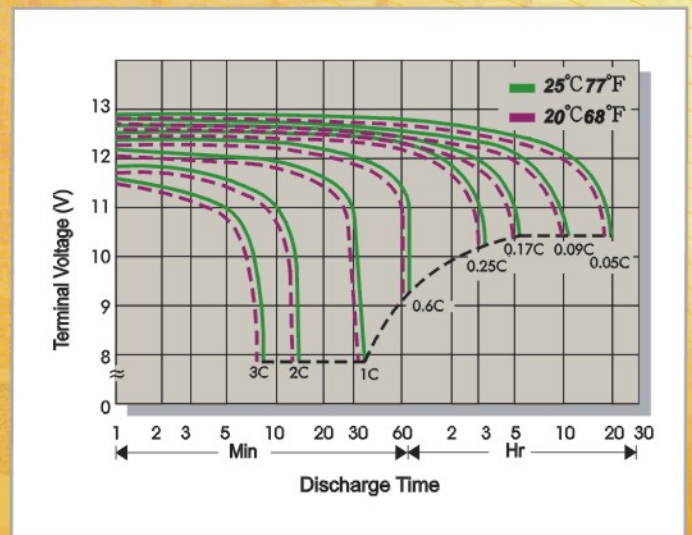
Battery Voltage and Charge Time for Standby Use



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 GP1272 is: $1 \times 7.2 = 7.2 \text{ (A)}$

Specifications

Battery Type	Nominal Voltage (V)	Nominal Capacity (Ah)*	Weight (Approx. Kg)	Internal Resistance (Approx. (mΩ))	Short Circuit Current (A)	Max. Discharge Current 5 sec (A)	Dimensions (mm)				Terminal Type	Bolt	Max. Charge Current (A)	Max. Screw Torque Value	
							Overall Height (H)	Container Height (h)	Length (L)	Width (W)				Kgf-cm/ lbf-in	N-m
GP645	6	4.5	0.84	18.5	137	80/90	107.5±1.5	102.1±1.5	70.0±1.0	48.0±1.0	F 1/2	Faston Tab 187/250	1.35	--	--
GP672	6	8.4	1.22	12.3	259	100/130	100.7±1.5	94.5±1.0	15.10±2.0	34.0±1.0	F 1/2	Faston Tab 187/250	2.16	--	--
GP6120	6	12	1.85	8.90	--	150/180	100.5±1.5	94.3±1.0	15.10±2.0	50.0±1.0	F 1/2	Faston Tab 187/250	3.60	--	--
GP1245	12	4.5	1.66	37.7	160	80/90	107.7±1.5	102.3±1.5	92.8±1.0	69.9±1.0	F 1/2	Faston Tab 187/250	1.35	--	--
GP1272	12	8.5	2.40	23.0	276	100/130	98.6±1.0	94.3±1.0	15.09±2.0	64.8±1.0	F 1/2	Faston Tab 187/250	2.16	--	--
GP12120	12	12	3.67	16.7	378	150/180	100.3±1.5	94.1±1.0	15.10±2.0	98.0±1.0	F 1/2	Faston Tab 187/250	3.60	--	--
GP12170	12	17	5.50	14.0	532	230	167.0±2.0	167.0±2.0	18.10±2.0	76.2±1.0	B1/B3/B1B	M5	5.10	59/51	5.73
GP12200	12	20	6.40	13.6	614	230	167.0±2.0	167.0±2.0	18.10±2.0	76.2±1.0	I1	M5	6.00	59/51	5.73
GP12280	12	26	8.45	9.9	635	350	125.0±1.5	125.0±1.5	166.0±2.0	175.0±2.0	B1/B3/B3B I1	M5	7.80	59/51	5.73
GP12340	12	34	10.48	9.5	915	380	178.3±2.0	154.8±2.0	195.6±2.0	130.0±1.5	B5	M6	10.2	138.6/120.3	13.58
GP12400	12	40	12.63	8.5	1012	400	170.4±2.0	170.4±2.0	197.0±2.0	165.0±2.0	B8 I2	M5/M6	12.0	59/51 138.6/120.3	5.73 13.58
GP12650	12	65	20.00	5.8	1663	500	174.9±2.0	174.9±2.0	349.4±2.5	166.0±2.0	B4 I2	M6	19.5	138.6/120.3	13.58
GP121000	12	100	30.60	4.4	2323	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

Specifications

Battery Type	Nominal Voltage (V)	Nominal Capacity (Wh/cell)*	Weight (Approx. Kg)	Internal Resistance Approx. (mΩ)	Short Circuit Current (A)	Max. Discharge Current 5 sec (A)	Dimensions (mm)				Terminal Type	Bolt	Max. Charge Current (A)	Max. Screw Torque Value	
							Overall Height (H)	Container Height (h)	Length (L)	Width (W)				Kgf-cm/ lbf-in	N-m
GP1245 (12V16Wh)	12	16	1.34	29.8	168	60/60	105.6±1.5	101.8±1.5	90.0±1.0	70.0±1.0	F1/F2	Faston Tab 187/250	1.6	--	--
GP1272 (12V28Wh)	12	28	2.10	19.8	304	100/130	96.6±1.0	94.3±1.0	150.9±2.0	64.8±1.0	F1/F2	Faston Tab 187/250	2.8	--	--

* Nominal Capacity 15min-rate to 1.67V 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

GP645

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	18.7	12.3	9.08	5.37	3.11	2.26	1.80	1.26	0.810	0.535	0.439	0.234
1.67V	17.6	11.8	8.88	5.31	3.09	2.25	1.79	1.24	0.808	0.533	0.438	0.233
1.70V	17.0	11.6	8.79	5.28	3.08	2.23	1.78	1.24	0.807	0.532	0.437	0.232
1.75V	16.1	11.2	8.62	5.21	3.06	2.22	1.77	1.23	0.804	0.531	0.435	0.229
1.80V	15.0	10.7	8.42	5.13	3.03	2.21	1.76	1.22	0.801	0.529	0.431	0.225
1.85V	13.8	10.3	8.21	5.04	3.00	2.18	1.74	1.21	0.798	0.528	0.428	0.221

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	111	72.4	54.8	32.9	19.3	14.0	11.1	8.05	5.33	3.55	2.90	1.60
1.67V	103	69.7	53.3	32.7	19.2	13.9	11.0	7.98	5.29	3.54	2.89	1.59
1.70V	100	68.6	52.5	32.4	19.1	13.8	10.9	7.95	5.24	3.52	2.88	1.58
1.75V	93.9	66.4	51.2	32.3	19.0	13.7	10.8	7.87	5.21	3.51	2.87	1.57
1.80V	88.5	64.1	50.0	31.8	18.8	13.5	10.7	7.85	5.16	3.48	2.85	1.56
1.85V	82.7	61.1	48.3	30.5	18.3	13.3	10.6	7.74	5.10	3.44	2.81	1.54

GP672

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	35.6	22.0	16.5	9.61	5.51	3.92	3.08	2.13	1.34	0.92	0.77	0.45
1.67V	33.1	21.0	15.9	9.36	5.41	3.85	3.02	2.08	1.31	0.90	0.76	0.44
1.70V	31.9	20.5	15.6	9.24	5.37	3.82	3.00	2.06	1.30	0.89	0.75	0.43
1.75V	29.6	19.6	15.1	9.03	5.30	3.77	2.96	2.02	1.27	0.88	0.74	0.42
1.80V	27.2	18.6	14.4	8.77	5.23	3.71	2.91	1.98	1.25	0.87	0.73	0.41
1.85V	24.5	17.4	13.7	8.44	5.14	3.66	2.87	1.95	1.22	0.86	0.71	0.40

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	180	123	91.4	53.9	32.2	23.5	18.8	13.3	8.62	5.87	4.90	2.68
1.67V	170	118	88.7	52.9	31.8	23.2	18.5	13.2	8.50	5.80	4.84	2.63
1.70V	165	115	87.2	52.4	31.6	23.1	18.4	13.1	8.45	5.76	4.77	2.61
1.75V	157	111	85.0	51.6	31.2	22.8	18.2	13.0	8.36	5.70	4.73	2.57
1.80V	147	106	82.3	50.6	30.9	22.5	18.0	12.8	8.27	5.65	4.70	2.53
1.85V	138	101	79.2	49.5	30.4	22.1	17.7	12.6	8.16	5.60	4.64	2.49

GP6120

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	51.2	33.2	23.9	13.9	8.14	5.90	4.69	3.37	2.24	1.45	1.19	0.64
1.67V	48.2	32.0	23.6	13.7	8.12	5.84	4.62	3.35	2.21	1.44	1.18	0.62
1.70V	46.3	31.6	23.3	13.6	8.08	5.82	4.61	3.32	2.18	1.43	1.17	0.61
1.75V	43.3	30.0	22.6	13.4	8.03	5.77	4.57	3.26	2.13	1.40	1.15	0.60
1.80V	38.8	28.0	21.5	13.0	7.81	5.64	4.48	3.17	2.06	1.37	1.14	0.58
1.85V	34.2	25.3	19.8	12.3	7.51	5.41	4.29	3.03	1.97	1.32	1.09	0.57

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	269	173	134	79.8	48.9	35.3	28.0	19.8	12.7	8.36	6.91	3.85
1.67V	257	171	132	79.6	48.8	35.1	27.8	19.7	12.6	8.30	6.85	3.81
1.70V	250	168	131	78.8	48.5	35.0	27.7	19.5	12.5	8.25	6.80	3.80
1.75V	231	163	128	78.1	48.1	34.6	27.5	19.3	12.2	8.12	6.69	3.77
1.80V	209	153	121	76.3	47.4	34.0	26.8	18.9	12.0	7.91	6.52	3.71
1.85V	185	140	111	72.2	45.8	33.1	26.3	18.1	11.7	7.73	6.36	3.61

GP1245**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	18.7	12.3	9.08	5.37	3.11	2.26	1.80	1.26	0.810	0.535	0.439	0.234
1.67V	17.6	11.8	8.88	5.31	3.09	2.25	1.79	1.24	0.808	0.533	0.438	0.233
1.70V	17.0	11.6	8.79	5.28	3.08	2.23	1.78	1.24	0.807	0.532	0.437	0.232
1.75V	16.1	11.2	8.62	5.21	3.06	2.22	1.77	1.23	0.804	0.531	0.435	0.229
1.80V	15.0	10.7	8.42	5.13	3.03	2.21	1.76	1.22	0.801	0.529	0.431	0.225
1.85V	13.8	10.3	8.21	5.04	3.00	2.18	1.74	1.21	0.798	0.528	0.428	0.221

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	221	145	110	65.9	38.6	27.9	22.2	16.1	10.7	7.09	5.79	3.19
1.67V	206	139	107	65.4	38.4	27.7	22.0	16.0	10.6	7.08	5.78	3.17
1.70V	199	137	105	64.9	38.1	27.6	21.9	15.9	10.5	7.04	5.76	3.16
1.75V	188	133	102	64.7	38.0	27.5	21.8	15.8	10.4	7.02	5.74	3.16
1.80V	177	128	100	63.6	37.7	27.2	21.5	15.7	10.3	6.96	5.71	3.13
1.85V	165	122	96.6	60.9	36.7	26.7	21.3	15.5	10.2	6.89	5.63	3.09

GP1272**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	34.8	21.5	15.9	9.22	5.37	3.92	3.11	2.24	1.48	0.990	0.817	0.441
1.67V	33.2	21.2	15.7	9.18	5.35	3.91	3.10	2.23	1.47	0.988	0.815	0.440
1.70V	32.1	20.9	15.5	9.13	5.33	3.90	3.09	2.22	1.46	0.986	0.813	0.439
1.75V	30.0	20.1	15.1	8.98	5.29	3.88	3.08	2.21	1.45	0.982	0.810	0.437
1.80V	27.5	18.7	14.4	8.68	5.18	3.83	3.05	2.20	1.44	0.971	0.800	0.432
1.85V	24.2	16.9	13.1	8.14	4.96	3.72	2.96	2.14	1.40	0.942	0.776	0.418

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	365	238	179	108	63.2	46.5	36.9	26.7	17.6	12.1	9.90	5.36
1.67V	353	234	178	107	63.1	46.4	36.8	26.6	17.5	12.0	9.89	5.35
1.70V	346	232	177	106	63.0	46.3	36.7	26.5	17.4	11.9	9.88	5.34
1.75V	329	224	173	105	62.6	46.2	36.6	26.4	17.3	11.8	9.85	5.32
1.80V	304	212	165	103	61.6	45.7	36.3	26.3	17.2	11.7	9.76	5.27
1.85V	276	195	153	97.6	59.5	44.5	35.4	25.6	17.0	11.5	9.51	5.12

GP12120**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	51.2	33.2	23.9	13.9	8.14	5.90	4.69	3.37	2.24	1.45	1.19	0.63
1.67V	48.2	32.0	23.6	13.7	8.12	5.84	4.62	3.35	2.21	1.44	1.18	0.62
1.70V	46.3	31.6	23.3	13.6	8.08	5.82	4.61	3.32	2.18	1.43	1.17	0.61
1.75V	43.3	30.0	22.6	13.4	8.03	5.77	4.57	3.26	2.13	1.40	1.15	0.60
1.80V	38.8	28.0	21.5	13.0	7.81	5.64	4.48	3.17	2.06	1.37	1.14	0.59
1.85V	34.2	25.3	19.8	12.3	7.51	5.41	4.29	3.03	1.97	1.32	1.09	0.57

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	539	347	268	160	97.9	70.6	55.9	39.6	25.3	16.7	13.8	7.70
1.67V	515	342	265	159	97.7	70.2	55.6	39.3	25.2	16.6	13.7	7.63
1.70V	499	336	262	158	97.0	69.9	55.4	39.0	25.0	16.5	13.6	7.61
1.75V	462	326	256	156	96.1	69.3	54.9	38.5	24.4	16.2	13.4	7.54
1.80V	418	307	243	153	94.8	68.0	53.7	37.7	24.1	15.8	13.1	7.42
1.85V	369	280	221	144	91.6	66.2	52.6	36.3	23.3	15.5	12.7	7.23

GP12170**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	80.2	50.9	38.5	23.4	13.8	10.1	8.03	5.72	3.63	2.37	1.93	1.00
1.67V	71.2	47.5	36.5	22.9	13.7	10.0	7.99	5.69	3.61	2.35	1.90	0.95
1.70V	67.4	45.8	35.6	22.7	13.6	9.99	7.97	5.67	3.60	2.34	1.89	0.94
1.75V	61.0	43.1	34.1	22.3	13.4	9.86	7.92	5.64	3.59	2.32	1.86	0.91
1.80V	54.5	40.2	32.7	21.8	13.3	9.79	7.87	5.61	3.58	2.30	1.83	0.88
1.85V	48.0	37.3	31.0	21.2	13.1	9.68	7.80	5.56	3.56	2.27	1.80	0.85

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	890	583	449	281	166	121	96.4	68.6	43.6	28.4	23.1	12.0
1.67V	790	544	423	275	164	120	96.0	68.5	43.4	28.3	22.8	11.5
1.70V	748	527	413	272	163	119	95.8	68.4	43.3	28.2	22.7	11.3
1.75V	677	493	395	267	161	119	95.3	67.9	43.2	27.9	22.4	10.9
1.80V	605	460	377	261	160	118	94.6	67.3	43.0	27.6	22.0	10.5
1.85V	533	427	361	254	158	116	93.8	66.8	42.9	27.3	21.7	10.1

GP12200

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	87.5	55.5	42.3	25.5	15.1	11.0	8.75	6.23	3.97	2.62	2.10	1.09
1.67V	77.7	51.8	39.7	24.9	15.0	10.9	8.69	6.22	3.94	2.60	2.07	1.04
1.70V	73.5	50.2	38.7	24.7	14.9	10.9	8.67	6.20	3.93	2.60	2.05	1.03
1.75V	66.4	47.0	37.1	24.2	14.8	10.7	8.54	6.17	3.92	2.59	2.03	1.00
1.80V	59.3	43.8	35.2	23.8	14.5	10.6	8.42	6.12	3.91	2.58	2.00	0.96
1.85V	52.2	40.5	33.7	23.2	14.3	10.4	8.29	6.07	3.90	2.57	1.96	0.92

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	1050	666	507	306	181	132	105	74.7	47.6	31.4	25.2	13.1
1.67V	932	621	481	301	179	130	104	74.6	47.3	31.3	24.9	12.5
1.70V	882	602	466	299	178	129	103	74.3	47.2	31.2	24.8	12.3
1.75V	797	564	446	292	176	128	102	74.0	47.1	31.1	24.4	11.9
1.80V	712	525	421	285	174	126	101	73.4	46.9	31.0	24.0	11.5
1.85V	627	487	404	278	171	125	100	72.8	46.8	30.9	23.6	11.1

GP12260

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	106	69.0	52.8	32.7	19.6	14.3	11.5	8.14	5.24	3.46	2.82	1.47
1.67V	99.0	65.9	51.1	32.3	19.5	14.2	11.4	8.13	5.23	3.43	2.79	1.42
1.70V	95.7	64.6	50.4	32.2	19.4	14.1	11.3	8.12	5.22	3.42	2.78	1.41
1.75V	89.7	62.0	49.0	31.6	19.3	14.0	11.2	8.11	5.21	3.38	2.74	1.37
1.80V	83.3	59.4	47.5	31.1	19.2	13.9	11.1	8.10	5.19	3.35	2.70	1.33
1.85V	76.7	56.5	45.8	30.5	19.1	13.8	11.0	8.09	5.17	3.31	2.66	1.29

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	1270	828	634	392	235	172	138	97.7	62.9	41.5	33.8	17.6
1.67V	1181	790	610	385	234	171	137	97.6	62.8	41.2	33.5	17.1
1.70V	1139	772	602	382	233	170	136	97.5	62.7	41.0	33.3	16.9
1.75V	1071	744	586	378	232	169	135	97.4	62.6	40.6	32.9	16.5
1.80V	999	713	570	373	231	168	134	97.3	62.3	40.2	32.4	16.0
1.85V	920	678	550	367	230	167	133	97.2	62.1	39.8	32.0	15.6

GP12340

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	144	91.7	69.3	42.1	25.0	18.2	14.5	10.3	6.55	4.26	3.48	1.86
1.67V	128	85.5	65.5	41.3	24.7	18.0	14.4	10.2	6.50	4.23	3.43	1.78
1.70V	121	82.8	63.8	40.8	24.5	17.9	14.3	10.1	6.49	4.23	3.41	1.75
1.75V	110	77.5	61.2	40.0	24.4	17.8	14.2	10.0	6.47	4.18	3.35	1.69
1.80V	98.0	72.3	58.8	39.2	24.0	17.6	14.1	9.90	6.45	4.14	3.30	1.64
1.85V	86.3	67.0	55.7	38.2	23.6	17.4	14.0	9.80	6.43	4.09	3.24	1.58

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	1732	1100	832	505	300	218	174	124	78.6	51.1	41.7	21.6
1.67V	1539	1026	788	495	297	216	173	123	78.1	50.8	41.1	20.7
1.70V	1456	994	771	490	295	215	172	122	77.9	50.7	40.9	20.3
1.75V	1316	931	739	481	292	213	171	121	77.7	50.2	40.3	19.6
1.80V	1176	867	705	470	288	212	170	120	77.4	49.6	39.6	18.9
1.85V	1036	804	669	458	283	209	169	119	77.2	49.1	39.0	18.2

GP12400

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	176	113	85.0	51.8	30.6	22.2	17.7	12.6	8.01	5.25	4.28	2.21
1.67V	157	105	81.0	50.8	30.3	22.1	17.6	12.5	7.98	5.19	4.19	2.11
1.70V	149	101	78.7	50.1	30.2	21.9	17.5	12.4	7.96	5.17	4.16	2.08
1.75V	135	95.0	75.5	49.0	30.0	21.8	17.4	12.3	7.93	5.10	4.09	2.00
1.80V	121	88.3	71.7	47.6	29.8	21.7	17.3	12.2	7.88	5.03	4.03	1.93
1.85V	107	81.7	67.8	46.2	29.4	21.5	17.2	12.1	7.85	4.96	3.96	1.85

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	2110	1350	1020	622	367	266	212	151	96.1	63.0	51.3	26.5
1.67V	1886	1259	972	606	364	264	211	150	95.7	62.3	50.4	25.4
1.70V	1790	1214	945	600	363	263	210	149	95.5	62.0	50.0	24.9
1.75V	1620	1140	902	585	360	262	209	148	95.2	61.2	49.2	24.1
1.80V	1450	1060	860	571	357	260	208	147	94.8	60.4	48.3	23.2
1.85V	1280	980	814	555	353	258	207	146	94.2	59.6	47.5	22.4

GP12650**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	271	173	132	79.9	47.2	34.2	27.3	19.4	12.4	8.08	6.58	3.57
1.67V	242	162	124	78.3	46.9	34.1	27.2	19.3	12.3	7.97	6.47	3.42
1.70V	229	157	121	77.3	46.7	34.0	27.1	19.2	12.2	7.93	6.43	3.36
1.75V	208	147	117	75.4	46.4	33.8	27.0	19.1	12.1	7.86	6.32	3.25
1.80V	186	137	111	73.4	45.9	33.6	26.9	19.0	12.0	7.76	6.21	3.14
1.85V	164	127	105	71.3	45.4	33.3	26.8	18.9	11.9	7.66	6.10	3.03

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	3250	2080	1580	959	566	411	327	232	148	97.0	79.0	40.9
1.67V	2900	1940	1503	935	562	409	326	231	147	96.0	77.7	39.2
1.70V	2750	1871	1460	924	560	407	325	230	146	95.5	77.1	38.4
1.75V	2490	1760	1400	903	555	405	324	229	145	94.3	75.8	37.1
1.80V	2230	1640	1330	881	550	403	323	228	144	93.1	74.5	35.7
1.85V	1970	1520	1260	856	545	400	322	227	143	91.9	73.2	34.4

GP121000**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	372	257	197	121	70.1	50.4	39.9	29.0	18.6	12.3	10.1	5.26
1.67V	326	242	187	117	68.8	49.5	39.2	28.6	18.3	12.1	9.94	5.23
1.70V	315	234	183	116	68.1	49.1	38.9	28.4	18.2	12.0	9.86	5.20
1.75V	286	213	175	113	66.8	48.3	38.4	27.9	17.9	11.8	9.72	5.10
1.80V	241	192	157	105	65.4	47.3	37.6	27.3	17.5	11.5	9.59	5.00
1.85V	202	165	135	96.8	62.5	46.0	36.6	26.5	17.1	11.2	9.24	4.80

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	3593	2696	2223	1366	802	579	459	335	216	143	117	61.1
1.67V	3463	2557	2094	1325	785	569	453	328	213	141	115	60.5
1.70V	3307	2505	2036	1306	778	564	449	325	211	140	114	60.0
1.75V	2954	2359	1931	1267	763	553	441	320	208	138	113	59.5
1.80V	2675	2222	1815	1218	746	542	432	313	203	135	111	58.9
1.85V	2451	1958	1610	1165	725	528	422	306	198	132	109	56.6

Please refer to the official site for the latest rating confirmation. URL: www.csb-battery.com**GP1245(12V16W)****Constant Current Discharge Characteristics Unit: A (25°C, 77°F)**

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
1.60V	36.5	24.0	20.5	18.0	14.4	11.9	8.80	6.91	4.91	3.50	2.75	1.96
1.67V	33.8	22.7	19.7	17.6	14.1	11.8	8.66	6.87	4.89	3.48	2.73	1.94
1.70V	32.0	22.1	19.2	17.1	13.9	11.7	8.61	6.83	4.87	3.46	2.71	1.92
1.75V	28.8	20.7	18.1	16.2	13.4	11.4	8.42	6.71	4.80	3.42	2.69	1.90
1.80V	25.0	19.1	16.8	15.2	12.6	10.9	8.22	6.51	4.69	3.36	2.65	1.88
1.85V	21.8	17.0	15.0	13.6	11.6	10.1	7.60	6.07	4.46	3.21	2.54	1.82

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

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
1.60V	367	246	214	191	157	134	99.4	79.2	57.3	41.2	32.6	23.1
1.67V	341	240	209	187	153	132	98.6	78.1	56.8	40.8	32.3	23.0
1.70V	326	233	204	183	152	131	97.2	77.9	56.6	40.6	32.1	22.9
1.75V	298	221	195	176	146	127	96.5	76.8	56.4	40.3	31.8	22.8
1.80V	270	204	182	165	141	122	92.9	74.9	55.3	39.6	31.3	22.3
1.85V	239	184	165	151	131	113	87.5	70.4	52.9	38.3	30.4	21.6

GP1272(12V28W)**Constant Current Discharge Characteristics Unit: A (25°C, 77°F)**

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
1.60V	58.3	39.7	34.1	29.9	24.1	20.8	15.0	12.0	8.73	6.29	4.98	3.52
1.67V	52.8	36.8	31.9	28.3	23.5	20.4	14.9	11.9	8.65	6.24	4.95	3.50
1.70V	50.2	35.4	30.8	27.5	23.0	20.1	14.7	11.8	8.61	6.21	4.92	3.48
1.75V	45.7	32.6	28.7	26.0	22.1	19.5	14.4	11.6	8.53	6.16	4.89	3.46
1.80V	41.1	29.8	26.6	24.4	20.7	18.5	13.9	11.2	8.26	6.02	4.81	3.41
1.85V	36.5	27.3	24.5	22.7	19.3	17.1	13.0	10.6	7.92	5.79	4.63	3.31

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

F.V/Time	2MIN	4MIN	5MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	45MIN	60MIN	90MIN
1.60V	595	410	356	318	268	232	174	139	101	73.4	58.5	41.8
1.67V	552	387	339	305	262	229	172	138	100	72.8	58.1	41.6
1.70V	532	373	329	298	260	226	171	137	99.3	72.4	57.8	41.4
1.75V	499	350	312	286	249	220	168	135	98.8	71.9	57.4	41.1
1.80V	464	327	294	272	237	212	162	132	96.8	70.6	56.4	40.6
1.85V	425	305	275	256	220	197	152	125	93.1	68.4	54.9	39.6

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