

BATTERY
CS3



GPL series

**General Purpose Long Life
Stability, Dependability and Reliability
19" and 23" Relay Rack Configuration**

ENERGY OF INFINITY ▼

Confidence & Creativity
Service & Sincerity
Belief & Bravery

GPL

GPL series

GPL Series batteries are using the latest Valve Regulated Lead-Acid (VRLA) technology with 8 to 10 years expected life under normal float charge. The batteries are designed for high performance, long life, leak-proof which is lighter and smaller in size and maintenance free.

Like all other CSB batteries, they are rechargeable and highly efficient with ISO certified and UL recognized.



Features

- Flame-retardant container and cover compliant with UL94 V-0.28%L.O.I. (Optional)
- Flame-arresting vents for long life and safety.
- Improved new Pd-Ca-Sn Alloy to resist grid corrosion.
- Special designed container structure to maintain structural integrity in high operating temperature.
- Adopted the latest advance developed separator with more than 99% efficient gas recombination.
- Lower internal resistance than conventional types with superior high rate discharge characteristics.

Service life

- 8 to 10 years expected life under normal float charge condition at 25 C (77 F)
- Extended shelf life (up to 14 months at 20 C)

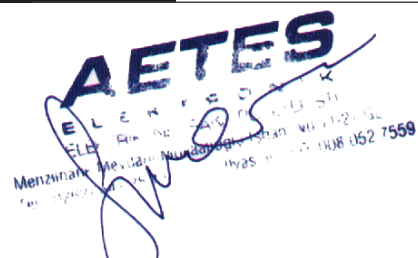
Reliability

- CSB manufactured batteries are 100% 2 cycle tested by CCDS system.
- CSB-Manufactured batteries are UL-recognized components under UL 924 and UL 1989. CSB file number MH 14533.
- ISO 9001 and 14001 certified.

Applications

- Telecommunications Applications (Distributed Power, PHS, Cellular and Broadband)
- Uninterrupted Power Supply Systems
- Electric Power Plant and Substation (Signaling and Communication)
- Emergency Lighting
- Fire Alarm and Security Systems
- Replacement for Open Type Stationary Lead Acid Batteries

Sales Office

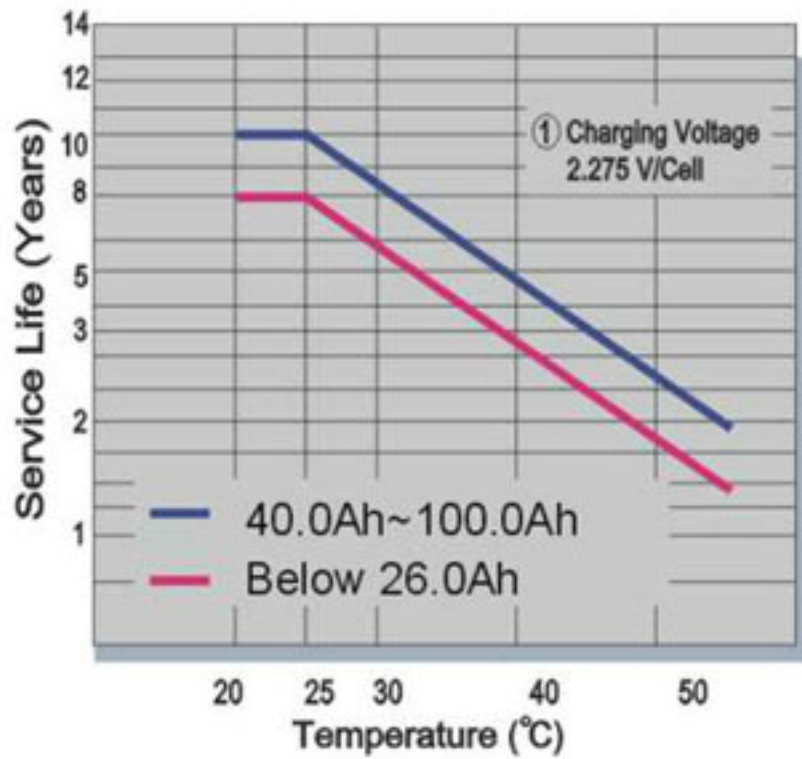


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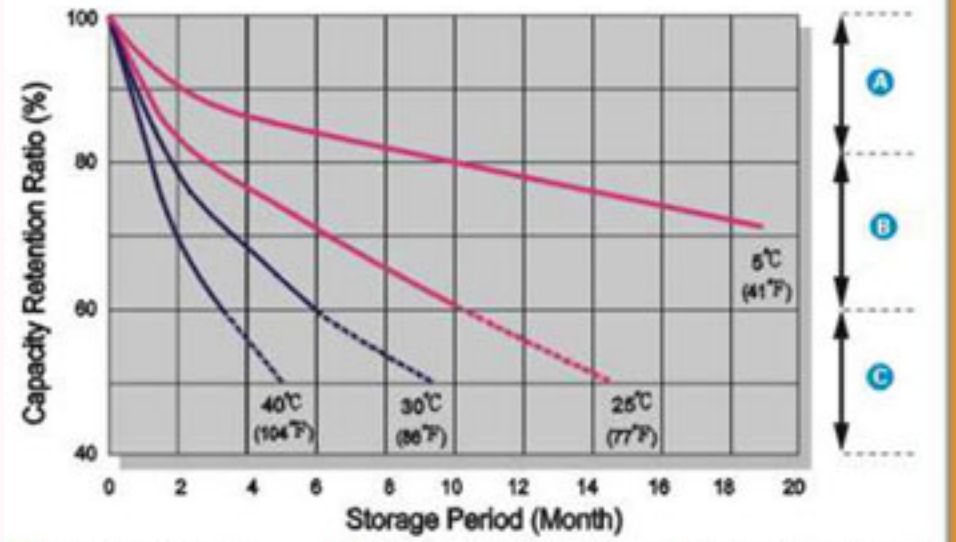
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Trickle (or Float) Service Life



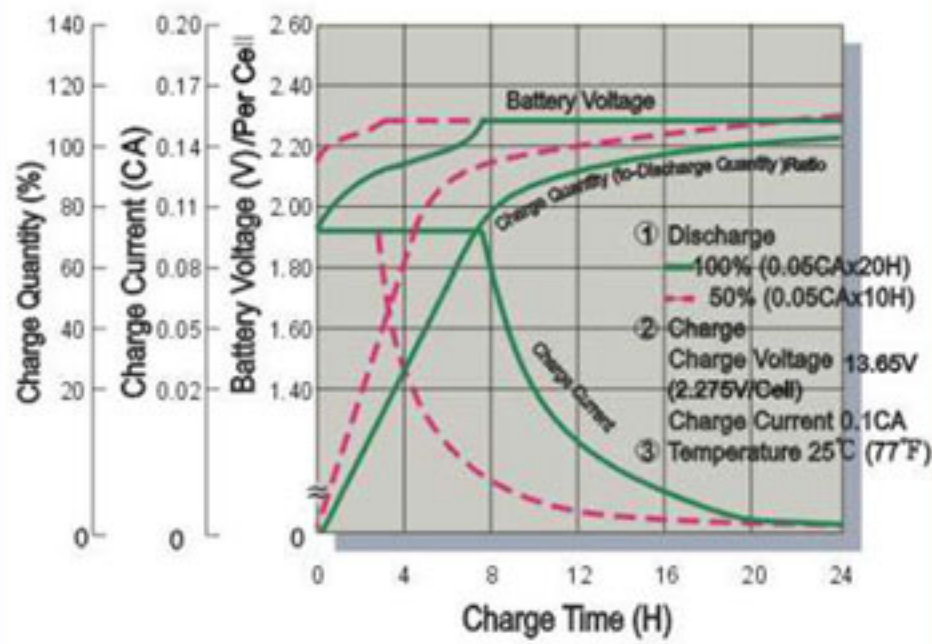
Capacity Retention Characteristic



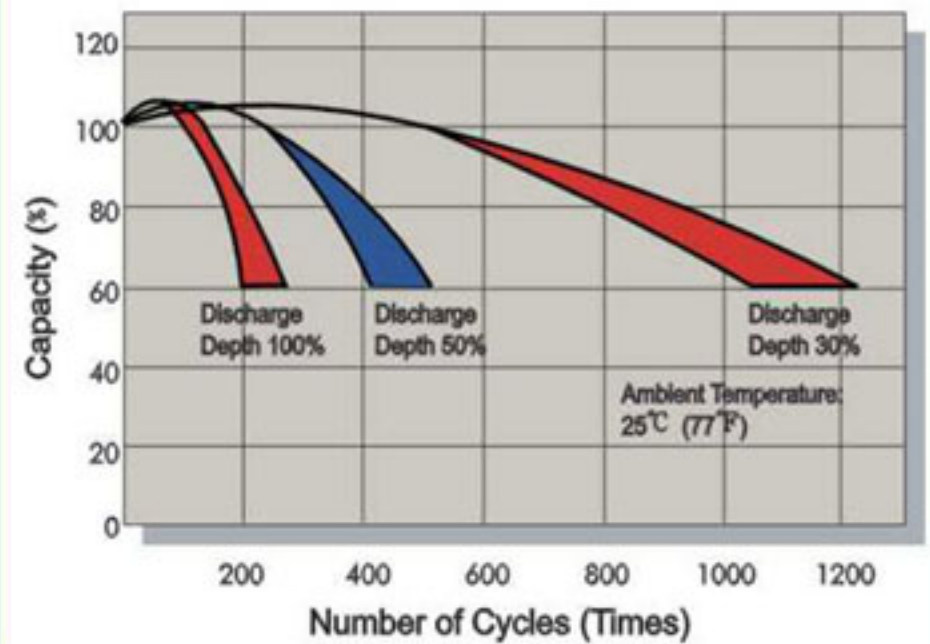
- A** No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required)
- B** Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.
- C** Supplementary charge may often be required to recover the capacity. The battery should never be left standing in this state for an extended period.

Supplementary charge and storage guidelines

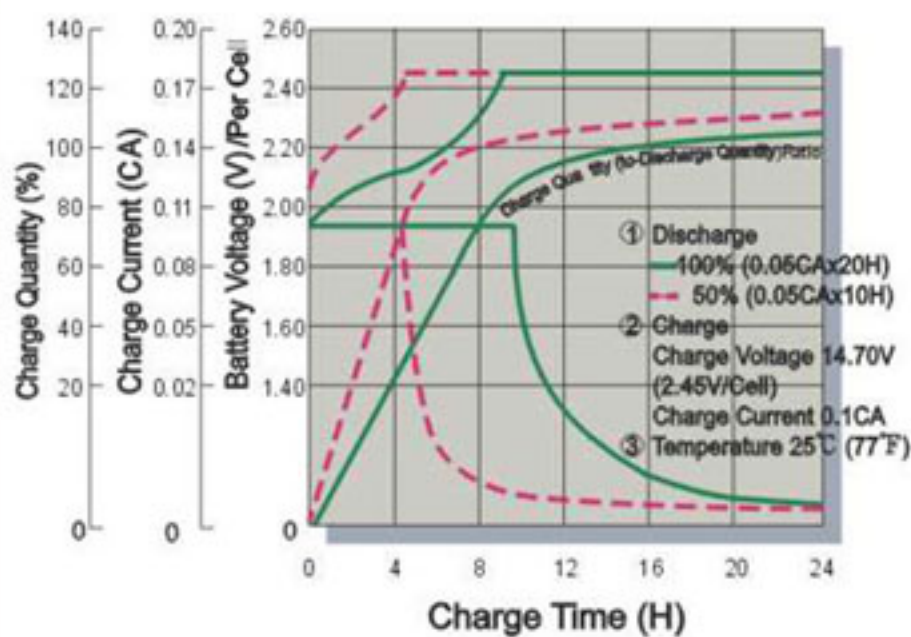
Battery Voltage and Charge Time for Standby Use



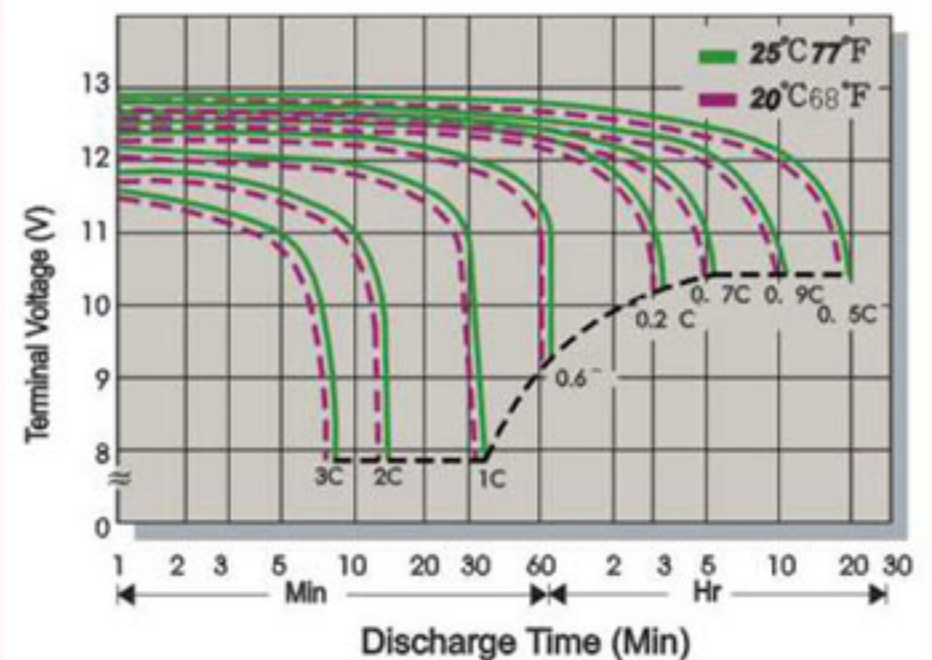
Cycle Service life



Battery Voltage and Charge Time for Cycle Use



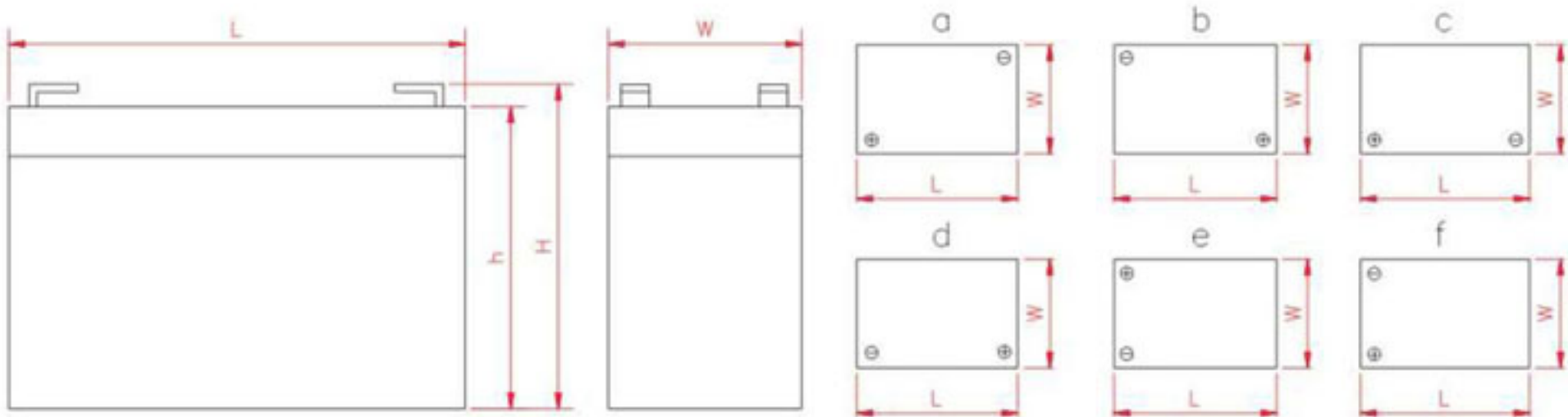
Terminal Voltage (V) and Discharge Time



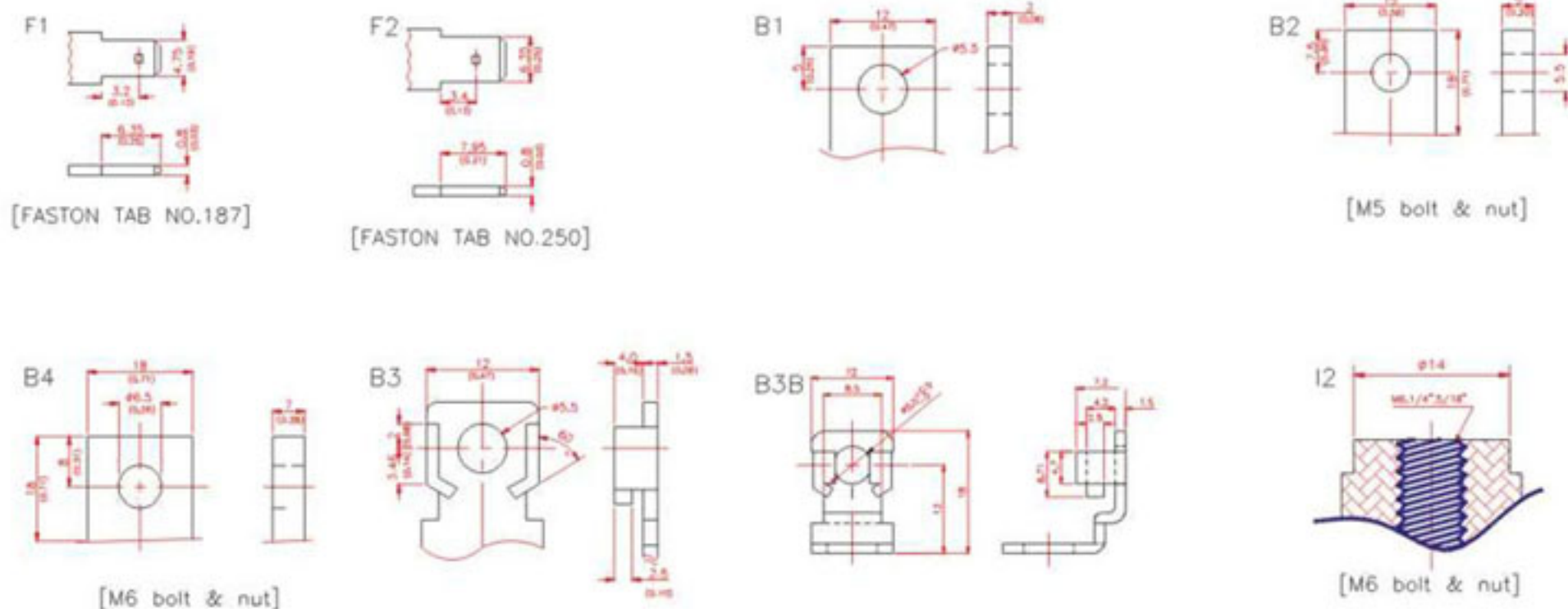
Specifications

Type	Nominal Voltage(V)	Nominal Capacity (20hr)(Ah)	Weight (Approx.)(kg)	Energy Density (wh/l)	Specific Energy (wh/kg)	Internal Resistance Approx. (mΩ)	Max. Discharge Current 5 sec(A)	Dimensions (mm)				Terminal Position	Terminal Type	Max. Charging Current(A)	Charging(V)	
								Height Over Terminal (H)	Container Height (h)	Length (L)	Width (W)				Standby Use	Cycle Use
GPL672	6	7.2	1.37	89.5	31.53	13.50	100/130	100.0±1.0	94.0±1.0	151.0±2.0	34.0±1.0	c	F1/F2	2.16	2.275V/0.025V/CELL AT 25°C (77°F) Temp Coefficient -3.3mV/CELL/°C	2.45V/0.05V/CELL AT 25°C (77°F) Temp Coefficient -5mV/CELL/°C
GPL1272	12	7.2	2.60	93.6	33.23	21.00	100/130	100.0±1.0	94.0±1.0	151.0±2.0	65.0±1.0	e	F1/F2	2.16		
GPL12120	12	12	4.10	103.2	35.12	14.00	180	100.0±1.0	94.0±1.0	151.0±2.0	98.0±1.0	e	F2	3.60		
GPL12260	12	26	9.18	88.0	33.99	9.40	350	125.0±1.5	122.0±1.5	166.0±2.0	175.0±2.0	d	B1/B3/B3B	7.80		
GPL12400	12	40	14.50	87.6	33.10	7.00	400	170.0±2.0	168.5±2.0	197.0±2.0	165.0±2.0	d	B2	12.00		
GPL12520	12	52	18.00	94.0	34.67	5.50	500	219.3±2.0	210.3±2.0	228.0±2.0	138.4±2.0	c	B4	15.60		
GPL12750	12	75	25.60	97.6	35.16	4.50	800	214.2±2.5	211.2±2.5	261.0±2.5	168.5±2.0	c	I2	22.50		
GPL12880	12	88	29.70	96.5	35.56	4.50	800	214.3±2.5	211.3±2.5	308.7±2.5	169.0±2.0	c	I2	26.40		
GPL121000	12	100	33.50	96.8	35.82	3.50	800	217.6±2.5	214.6±2.5	343.0±2.5	170.0±2.0	c	I2	30.00		

Terminal Position



Terminal Type



GPL672**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	24.1	18.4	14.9	9.05	4.91	2.72	1.95	1.53	1.29	0.901	0.739	0.375
1.67V	23.2	17.7	14.4	8.85	4.74	2.63	1.89	1.50	1.26	0.879	0.729	0.369
1.70V	22.7	17.4	14.1	8.73	4.66	2.58	1.86	1.48	1.25	0.869	0.725	0.367
1.75V	21.8	16.8	13.6	8.50	4.55	2.49	1.80	1.45	1.22	0.849	0.709	0.360
1.80V	20.8	16.0	13.0	8.19	4.42	2.42	1.74	1.40	1.19	0.826	0.693	0.352
1.85V	19.6	15.1	12.3	7.87	4.30	2.34	1.69	1.36	1.15	0.800	0.668	0.345

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	129	105	85.3	51.5	28.8	16.1	11.2	9.00	7.65	5.35	4.39	2.23
1.67V	125	102	82.5	50.3	28.1	15.8	11.0	8.86	7.52	5.25	4.31	2.20
1.70V	123	100	81.1	49.7	27.8	15.6	10.9	8.80	7.46	5.20	4.28	2.18
1.75V	120	96.5	78.8	48.6	27.4	15.2	10.8	8.67	7.33	5.13	4.22	2.14
1.80V	116	92.3	76.3	47.3	26.5	14.8	10.6	8.51	7.18	5.05	4.15	2.10
1.85V	111	88.3	73.8	46.1	25.8	14.3	10.4	8.36	7.03	4.98	4.07	2.06

GPL1272**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	24.1	19.2	15.6	9.05	4.88	2.67	1.93	1.53	1.29	0.901	0.739	0.375
1.67V	23.1	18.3	14.9	8.81	4.73	2.60	1.90	1.51	1.28	0.886	0.729	0.369
1.70V	22.6	17.8	14.5	8.68	4.65	2.57	1.87	1.50	1.27	0.879	0.725	0.367
1.75V	21.8	17.0	13.9	8.46	4.53	2.51	1.83	1.46	1.24	0.864	0.709	0.360
1.80V	20.8	16.2	13.2	8.19	4.39	2.46	1.78	1.42	1.21	0.849	0.693	0.352
1.85V	19.6	15.3	12.5	7.87	4.28	2.40	1.75	1.38	1.17	0.826	0.677	0.345

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	258	210	173	103	54.0	29.8	22.0	18.0	15.3	10.5	8.78	4.46
1.67V	251	202	166	101	53.3	29.1	21.8	17.8	15.0	10.4	8.64	4.40
1.70V	247	199	162	99.3	52.9	28.8	21.6	17.6	14.9	10.2	8.57	4.36
1.75V	240	192	156	97.4	52.3	28.2	21.2	17.3	14.5	10.1	8.45	4.28
1.80V	231	185	151	95.0	51.5	27.7	20.8	16.8	14.1	10.0	8.29	4.20
1.85V	222	177	146	92.2	50.6	27.2	20.4	16.4	13.8	9.73	8.14	4.12

GPL12120**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	40.8	27.8	20.2	12.1	7.70	4.58	3.27	2.56	2.15	1.50	1.23	0.625
1.67V	38.1	26.5	19.5	11.8	7.57	4.48	3.22	2.52	2.12	1.48	1.22	0.615
1.70V	36.8	25.9	19.3	11.6	7.46	4.43	3.19	2.51	2.11	1.47	1.21	0.611
1.75V	34.8	24.7	18.6	11.4	7.33	4.34	3.15	2.48	2.08	1.44	1.18	0.600
1.80V	32.8	23.4	17.9	11.1	7.16	4.26	3.10	2.44	2.04	1.42	1.16	0.586
1.85V	30.6	21.9	17.1	10.8	7.01	4.17	3.05	2.38	2.00	1.39	1.13	0.575

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	436	345	270	163	90.2	51.4	38.2	30.1	25.6	17.9	14.5	7.45
1.67V	412	319	250	153	87.5	50.5	37.6	29.7	25.2	17.5	14.4	7.35
1.70V	400	308	241	149	86.1	50.0	37.2	29.5	25.0	17.4	14.3	7.28
1.75V	381	289	224	141	84.4	49.5	36.7	29.0	24.5	17.1	14.2	7.15
1.80V	363	270	208	134	82.0	48.8	36.0	28.5	24.0	16.9	13.9	7.01
1.85V	346	251	195	127	79.8	48.2	35.2	27.9	23.5	16.6	13.6	6.88

GPL12260**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	127	73.6	54.8	32.1	19.0	10.2	7.31	5.66	4.69	3.07	2.54	1.37
1.67V	113	68.4	51.5	31.0	18.6	10.0	7.17	5.53	4.59	3.02	2.50	1.36
1.70V	106	65.9	49.8	30.3	18.4	9.93	7.11	5.47	4.53	3.00	2.47	1.35
1.75V	94.0	61.2	47.0	29.3	17.9	9.78	7.01	5.37	4.46	2.98	2.45	1.33
1.80V	81.6	56.0	44.1	27.9	17.3	9.58	6.86	5.26	4.38	2.92	2.42	1.31
1.85V	68.9	51.0	40.4	26.3	16.6	9.38	6.65	5.15	4.26	2.83	2.35	1.28

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	1524	883	665	385	228	123	87.7	67.9	56.3	36.8	30.5	16.4
1.67V	1358	826	626	372	220	121	85.8	67.4	55.1	36.2	29.9	16.2
1.70V	1276	793	607	364	217	120	84.9	65.5	54.4	35.9	29.6	16.1
1.75V	1127	745	574	351	209	118	83.1	65.0	53.6	35.4	29.0	15.9
1.80V	983	680	530	335	202	115	81.0	63.1	52.5	34.7	28.4	15.7
1.85V	827	612	486	316	192	112	78.7	61.8	51.1	34.0	27.5	15.4

GPL12400**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	179	123	92.6	53.1	30.9	18.0	13.0	9.95	7.99	5.17	4.18	2.09
1.67V	163	116	88.9	51.5	29.9	17.8	12.7	9.73	7.86	5.08	4.14	2.07
1.70V	156	113	87.0	50.8	29.4	17.6	12.6	9.59	7.80	4.98	4.09	2.05
1.75V	143	106	83.0	49.4	28.8	17.3	12.3	9.42	7.67	4.89	4.04	2.02
1.80V	132	98.7	79.0	47.9	28.0	16.9	12.0	9.25	7.52	4.79	4.00	2.00
1.85V	118	91.0	74.6	46.0	27.0	16.5	11.7	9.02	7.38	4.70	3.90	1.97

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	1,912	1,368	1,026	604	350	198	140	112	93.5	60.4	48.8	24.3
1.67V	1,745	1,288	983	584	341	192	136	109	91.3	59.2	48.3	24.2
1.70V	1,668	1,253	964	577	335	189	135	108	90.2	58.7	48.0	24.1
1.75V	1,554	1,188	925	562	325	185	133	106	88.5	57.9	47.7	23.9
1.80V	1,433	1,115	887	546	315	180	130	103	86.5	57.0	47.4	23.7
1.85V	1,326	1,040	849	528	307	176	126	101	84.3	56.3	46.8	23.7

GPL12520**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	233	149	112	64.9	36.8	21.0	15.0	11.7	9.90	6.66	5.42	2.91
1.67V	208	139	107	63.1	36.0	20.8	14.8	11.6	9.81	6.60	5.40	2.90
1.70V	197	134	104	62.0	35.7	20.6	14.7	11.5	9.76	6.58	5.37	2.89
1.75V	179	126	101	60.6	35.2	20.3	14.5	11.4	9.69	6.54	5.34	2.88
1.80V	161	118	96.8	59.2	34.7	20.1	14.3	11.3	9.62	6.50	5.31	2.87
1.85V	143	111	93.0	57.8	34.2	19.9	14.2	11.2	9.55	6.46	5.29	2.85

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	2,209	1,477	1,125	668	386	221	154	124	106	71.5	58.7	34.4
1.67V	2,012	1,381	1,058	654	380	219	153	123	105	71.4	58.4	34.3
1.70V	1,917	1,335	1,028	646	376	217	152	122	104	71.3	58.2	34.2
1.75V	1,767	1,252	986	632	372	214	151	121	103	70.9	58.0	33.7
1.80V	1,619	1,169	944	615	368	212	150	120	102	70.4	57.9	33.3
1.85V	1,459	1,088	904	598	363	209	149	119	101	69.9	57.7	33.0

GPL12750**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	325	210	155	93.3	53.4	31.0	21.5	16.7	13.8	9.36	7.85	4.45
1.67V	292	194	146	90.1	52.3	30.5	21.2	16.6	13.7	9.30	7.69	4.42
1.70V	276	187	142	88.5	51.6	30.2	21.0	16.5	13.6	9.28	7.62	4.41
1.75V	249	174	135	85.4	50.4	29.8	20.6	16.2	13.5	9.11	7.56	4.33
1.80V	220	160	129	82.1	49.2	29.3	20.2	15.9	13.4	8.93	7.50	4.24
1.85V	188	145	121	78.5	47.7	28.8	19.8	15.6	13.0	8.76	7.44	4.16

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	3,420	2,370	1,778	1,070	623	363	253	197	163	112	94.7	53.2
1.67V	3,120	2,181	1,676	1,029	611	360	250	196	160	111	93.6	52.5
1.70V	2,986	2,100	1,626	1,008	604	358	248	195	159	110	93.1	52.1
1.75V	2,718	1,935	1,535	972	593	353	244	193	158	109	92.0	51.5
1.80V	2,450	1,770	1,442	936	580	347	240	189	156	107	90.8	50.8
1.85V	2,140	1,605	1,334	889	565	342	236	186	153	105	89.2	50.1

GPL12880**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	381	252	187	109	62.6	36.4	25.2	19.6	16.5	11.0	9.10	4.92
1.67V	342	230	176	105	61.0	35.8	24.8	19.5	16.4	10.9	9.00	4.87
1.70V	323	221	171	103	60.3	35.5	24.6	19.4	16.3	10.8	8.97	4.85
1.75V	291	205	160	99.1	59.0	35.0	24.2	19.1	15.9	10.6	8.92	4.82
1.80V	258	187	151	95.0	57.7	34.4	23.7	18.7	15.5	10.4	8.88	4.79
1.85V	220	169	140	90.8	56.0	33.9	23.3	18.4	15.1	10.2	8.83	4.76

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	4,010	2,679	2,020	1,250	731	426	297	231	192	131	111	62.5
1.67V	3,632	2,496	1,908	1,205	716	422	293	229	188	129	110	62.2
1.70V	3,451	2,409	1,850	1,184	708	418	290	227	187	128	109	62.0
1.75V	3,131	2,251	1,756	1,143	695	414	287	225	185	127	108	60.9
1.80V	2,817	2,080	1,651	1,097	680	407	282	221	184	126	107	59.8
1.85V	2,500	1,887	1,563	1,045	662	401	278	218	181	124	106	58.7

GPL121000**Constant Current Discharge Characteristics Unit:Amperes(25°C, 77°F)**

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	433	287	214	124	71.2	40.3	28.7	22.3	18.4	12.5	10.5	5.42
1.67V	388	263	198	120	69.7	39.7	28.2	22.0	18.2	12.4	10.4	5.38
1.70V	366	253	193	118	69.0	39.4	28.0	21.9	18.1	12.3	10.3	5.36
1.75V	330	234	183	113	67.6	38.8	27.5	21.6	17.9	12.1	10.2	5.31
1.80V	290	215	171	108	65.6	38.1	26.9	21.2	17.7	11.9	10.0	5.25
1.85V	250	196	161	103	63.6	37.5	26.4	20.9	17.3	11.7	9.80	5.20

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	4,560	3,150	2,371	1,420	830	472	337	263	218	149	126	71.0
1.67V	4,162	2,905	2,223	1,368	814	465	333	262	216	148	125	70.6
1.70V	3,972	2,783	2,150	1,342	806	461	331	261	214	147	124	70.4
1.75V	3,625	2,580	2,037	1,290	789	454	326	257	213	146	123	69.2
1.80V	3,251	2,360	1,897	1,238	773	445	320	252	212	143	121	67.9
1.85V	2,855	2,140	1,774	1,185	753	437	315	248	207	141	119	66.7