VISION
Rechargeable Products
VRLA Battery

VISION

www.vision-batt.com

CP Series

Products Guide

Shenzhen Center Power Tech. Co., Ltd

One of the largest VRLA Battery manufacturers in the world

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Contents

General features

Stable Quality & High Reliability

VISION battery is well-known for its stable and reliable performance.VISION batteries are easy to maintain;thus,permitting a safe and proper operation of the equipment that the battery powers.The battery can withstand overcharge,over discharge,vibration,and shock.It is also capable of extended storage.

Sealed Construction

VISION's unique construction and sealing technique guarantees that no electrolyte leakage can occur from the terminals or case of any VISION battery. This feature insures safe and efficient operation of VISION batteries in any position. VISION batteries are classified as "Non-Spillable" and will meet all requirements of the International Air Transport Association. (IATA Dangerors Goods Regulation,41# Edition,Section 4.5A,Special Provision:A67)

Long Service Life, Float or Cyclic

The VISION VRLA battery has a long life in float or cyclic service.

Maintenance-Free Operation

During the expected float service life of VISION batteries, there is no need to check the specific gravity of the electrolyte, or add water. In fact, there is no provision for these maintenance functions.

Low Pressure Venting System

VISION batteries are equipped with a safe low pressure venting system,which operates from 1 psi to 6 psi.The venting system is designed to release excess gas in the event that the gas pressure rises to a level above the normal rate.Afterwards,the venting system automatically re-seals itself when the gas pressure level returns its normal rate.This feature prevents excessive build up of gas in the batteries. This low pressure venting system, coupled with the extraordinarily high recombination efficiency, make VISION batteries the safest sealed lead-acid batteries available.

Heavy Duty Grids

The heavy-duty lead calcium-alloy grids in VISION batteries provide an extra margin of performance and service life in both float and cyclic applications, even in conditions of deep discharge.

Low Self Discharge

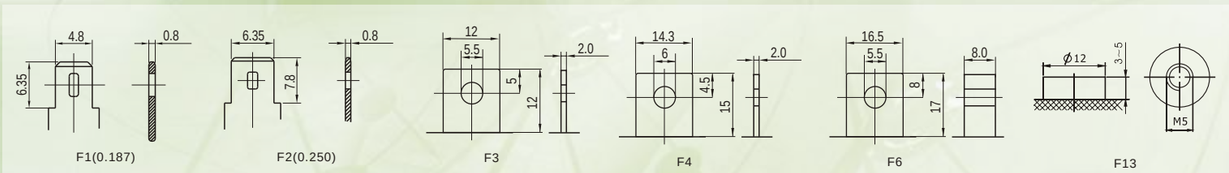
Because of the use of Lead Calcium grids alloy, VISION VRLA battery can be stored for long periods of time without recharge.

Application Fields

A partial list of common applications includes, but is not limited to, standby or primary power for:

- Alarm Systems
- Marine Equipment
- Cable Television
- Medical Equipment
- Communications Equipment
- Micro Processor Based Office Machines
- Control Equipment
- Portable Cine & Video Lights
- Computers
- Power Tools
- Electronic Cash Registers
- Solar Powered Systems
- Electronic Test Equipment
- Telecommunications Systems
- Electric powered Bicycle and Wheelchairs
- Television & Video Recorders
- Emergency Lighting Systems
- Toys
- Fire & Security Systems
- Uninterruptible Power Supplies
- Geophysical Equipment
- Vending Machines

Terminals



General Specifications

TYPE	Nominal Voltage(V)	20h Rate Capacity(Ah)	L(mm)	L(inch)	W(mm)	W(inch)	H(mm)	H(inch)	TH(mm)	TH(inch)	Wt.(Kg)	Wt.(lbs)	Terminal type
CP260	2	6	51	2.01	33	1.30	99	3.90	104	4.09	0.44	0.97	F1
CP445	4	4.5	48	1.89	48	1.89	102	4.02	108	4.25	0.54	1.19	F1/F2
CP445S	4	4.5	48	1.89	52	2.05	94	3.70	99	3.9	0.60	1.32	F1/F2
CP495	4	9.5	102	4.02	44	1.73	95	3.74	101	3.98	1.00	2.20	F1/F2
CP4200	4	20	149	5.87	43	1.69	154	6.06	159	6.26	2.55	5.62	F2
CP612	6	1.2	97	3.82	24	0.94	52	2.05	58	2.28	0.31	0.68	F1
CP620S	6	2	43	1.69	37	1.46	83	3.27	83	3.27	0.35	0.77	
CP628	6	2.8	66	2.60	33	1.30	97	3.82	104	4.09	0.64	1.34	F1
CP632	6	3.2	134	5.28	34	1.34	61	2.40	67	2.64	0.71	1.57	F1
CP632S	6	3.2	194	7.64	25	0.98	50	1.97	56	2.20	0.65	1.43	F1
CP632SA	6	3.2	67	2.64	34	1.34	118	4.65	124	4.88	0.71	1.57	F1
CP640LE	6	4	70	2.76	47	1.85	101	3.98	101	3.98	0.65	1.43	F1
CP642	6	4.2	70	2.76	47	1.85	101	3.98	107	4.21	0.76	1.68	F1
CP642L	6	4.2	70	2.76	47	1.85	101	3.98	101	3.98	0.72	1.59	F1
CP645L	6	4.5	70	2.76	47	1.85	101	3.98	101	3.98	0.75	1.72	F1
CP645T	6	4.5	70	2.76	47	1.85	101	3.98	101	3.98	0.78	1.72	
CP645	6	4.5	70	2.76	47	1.85	101	3.98	107	4.21	0.78	1.72	F1/+F2/-F1
CP645LA	6	4.5	70	2.76	47	1.85	101	3.98	101	3.98	0.76	1.72	F1
CP645H	6	4.5	70	2.76	47	1.85	101	3.98	107	4.21	0.85	1.87	F1/+F2/-F1
CP650S	6	4.6	67	2.64	67	2.64	96	3.78	109	4.29	0.85	1.87	F1
CP650	6	5	70	2.76	47	1.85	101	3.98	107	4.21	0.92	2.03	F1/F2
CP656	6	5.6	70	2.76	47	1.85	101	3.98	107	4.21	0.96	2.12	F1/F2
CP665E	6	6.5	151	5.94	34	1.34	94	3.70	100	3.94	1.10	2.43	F1/F2
CP672	6	7.2	151	5.94	34	1.34	94	3.70	100	3.94	1.36	2.96	F1/F2
CP677	6	7.7	151	5.94	34	1.34	94	3.70	97	3.82	1.34	2.95	F1
CP680S	6	8	98	3.86	56	2.2	117	4.61	117	4.61	1.69	3.72	F1/F2
CP6100	6	10	151	5.94	50	1.97	94	3.70	100	3.94	1.67	3.68	F1/F2
CP6100TS	6	10	108	4.25	71	2.8	140	5.51	140	5.51	2.02	4.45	
CP6120	6	12	151	5.94	50	1.97	94	3.70	100	3.94	2.00	4.63	F1/F2
CP6140T	6	14	108	4.25	71	2.80	140	5.51	140	5.51	2.37	5.22	F1
CP6140TS	6	14	108	4.25	71	2.80	140	5.51	140	5.51	2.37	5.22	
CP820	8	2	69	2.72	49	1.93	65	2.56	65	2.56	0.56	1.22	
CP832	8	3.2	68	2.68	49	1.93	91	3.58	91	3.58	0.78	1.72	
CP832S	8	3.2	134	5.28	36	1.42	63	2.48	69	2.72	0.80	1.76	F1
CP1208	12	0.8	96	3.78	25	0.98	62	2.44	62	2.44	0.34	0.75	
CP1212	12	1.2	97	3.82	43	1.69	52	2.05	58	2.28	0.61	1.34	F1
CP1212S	12	1.2	97	3.82	48	1.89	52	2.05	58	2.28	0.63	1.39	F1
CP1220C	12	1.6	144	5.67	24	0.94	65	2.56	65	2.56	0.60	1.32	
CP1220M	12	1.6	150	5.91	20	0.79	90	3.54	90	3.54	0.68	1.50	
CP1223C	12	2	182	7.17	24	0.94	61	2.40	61	2.40	0.71	1.57	
CP1222S	12	2.2	103	4.06	46	1.81	70	2.76	70	2.76	0.98	2.16	
CP1219	12	1.9	178	7.01	35	1.38	61	2.40	67	2.64	0.80	1.76	F1
CP1223	12	2.3	178	7.01	35	1.38	61	2.40	67	2.64	0.99	2.18	F1
CP1223H	12	2.3	178	7.01	35	1.38	61	2.40	67	2.64	0.99	2.18	F1
CP1223E	12	2.3	178	7.01	35	1.38	61	2.40	67	2.64	0.85	1.87	F1

General Specifications

TYPE	Nominal Voltage(V)	20h Rate Capacity(Ah)	L(mm)	L(inch)	W(mm)	W(inch)	H(mm)	H(inch)	TH(mm)	TH(inch)	Wt.(Kg)	Wt.(lbs)	Terminal type
CP1225	12	2.5	104	4.09	48	1.89	70	2.76	70	2.76	0.93	2.05	
CP1225S	12	2.5	104	4.09	48	1.89	70	2.76	70	2.76	0.93	2.05	
CP1226S	12	2.6	70	2.76	48	1.89	98	3.88	104	4.11	0.91	2.01	F1
CP1226	12	2.6	178	7.01	35	1.38	61	2.40	67	2.64	0.99	2.18	F1
CP1229	12	2.9	79	3.11	55	2.19	98	3.88	104	4.09	1.18	2.60	F1
CP1232	12	3.2	134	5.28	67	2.64	61	2.40	67	2.64	1.40	3.09	F1/F2
CP1232S	12	3.2	134	5.28	67	2.64	60	2.36	66	2.60	1.40	3.09	F1/F2
CP1240L	12	4	90	3.54	70	2.76	101	3.98	101	3.98	1.55	3.42	F1
CP1240SL	12	4	90	3.54	70	2.76	101	3.98	101	3.98	1.55	3.42	F1
CP1245	12	4.5	90	3.54	70	2.76	101	3.98	107	4.21	1.72	3.79	F1
CP1245H	12	4.5	90	3.54	70	2.76	101	3.98	107	4.21	1.72	3.79	F1
CP1245S	12	4.5	140	5.51	48	1.89	102	4.02	103	4.06	1.83	4.03	F1
CP1250	12	5	90	3.54	70	2.76	101	3.98	107	4.21	1.80	3.97	F1/F2
CP1250H	12	5	90	3.54	70	2.76	101	3.98	107	4.21	1.80	3.97	F1/F2
CP1260	12	6	151	5.94	52	2.05	94	3.70	99	3.90	2.18	4.80	F1/F2
CP1265E	12	6.5	151	5.94	65	2.56	94	3.70	100	3.94	2.14	4.72	F1/F2
CP1270	12	7	151	5.94	65	2.56	93.5	3.68	100	3.94	2.43	5.36	F1/F2
CP1270A	12	7	151	5.94	65	2.56	93.5	3.68	101	3.98	2.33	5.14	F2
CP1270L	12	7	151	5.94	65	2.56	93.5	3.68	94	3.70	2.53	5.58	F1
CP1270SL	12	7	151	5.94	65	2.56	93.5	3.68	94	3.70	2.48	5.47	F1
CP1272	12	7.2	151	5.94	65	2.56	94	3.70	100	3.94	2.50	5.51	F1/F2
CP1280H	12	8	151	5.94	65	2.56	94	3.70	100	3.94	2.62	5.78	F1/F2
CP1290L	12	9	151	5.94	65	2.56	94	3.70	94	3.70	2.80	6.17	F1
CP1290	12	9	151	5.94	65	2.56	94	3.70	100	3.94	2.80	6.17	F1/F2
CP12100E	12	10	151	5.94	98	3.86	95	3.74	101	3.98	3.50	7.72	F1/F2
CP12100S	12	10	151	5.94	65	2.56	111	4.37	117	4.61	3.25	7.16	F1/F2
CP12100	12	10	151	5.94	98	3.86	95	3.74	101	3.98	3.70	8.16	F1/F2
CP12100M	12	10	151	5.94	98	3.86	95	3.74	107	4.21	3.45	7.61	
CP12120	12	12	151	5.94	98	3.86	95	3.74	101	3.98	3.90	8.60	F1/F2
CP12150	12	15	181	7.13	77	3.03	167	6.57	167	6.57	5.08	11.2	F3/F4
CP12170	12	17	181	7.13	77	3.03	167	6.57	167	6.57	5.70	12.6	F2/F3/F4
CP12170X	12	17	181	7.13	77	3.03	167	6.57	167	6.57	5.70	12.6	F13
CP12170H	12	17	181	7.13	77	3.03	167	6.57	167	6.57	5.90	13.0	F3/F4
CP12170HX	12	17	181	7.13	77	3.03	167	6.57	167	6.57	5.90	13.0	F13
CP12200	12	20	181	7.13	77	3.03	167	6.57	167	6.57	5.90	13.0	F3/F4
CP12200HD	12	20	181	7.13	77	3.03	167	6.57	167	6.57	6.70	14.8	
CP12240S	12	24	165	6.5	125	4.92	175	6.89	182	7.17	8.50	18.7	F2/F6
CP12240	12	24	166	6.54	175	6.89	125	4.92	125	4.92	8.60	19.0	F3/F4
CP12240X	12	24	166	6.54	175	6.89	125	4.92	125	4.92	8.60	19.0	F13
CP12240H	12	24	166	6.54	175	6.89	125	4.92	125	4.92	9.20	20.3	F3/F4
CP12240HX	12	24	166	6.54	175	6.89	125	4.92	125	4.92	9.20	20.3	F13
CP12280S	12	28	165	6.50	125	4.92	175	6.89	182	7.17	9.95	21.9	F2/F6
CP2445	24	4.5	207	8.15	78	3.07	74	2.91	74	2.91	3.20	7.05	
CP2480	24	8	180	7.09	160	6.30	72	2.83	72	2.83	5.60	12.3	

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.60 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP260	28.7	19.2	14.2	8.19	4.83	1.81	1.09	0.58	0.31
CP445	15.7	12.0	9.40	5.50	3.00	1.34	0.92	0.452	0.233
CP445S	15.9	12.3	9.60	5.60	3.06	1.35	0.93	0.45	0.231
CP495	38.0	28.5	20.0	11.5	6.50	2.67	1.84	0.92	0.482
CP4200	80.0	55.0	38.0	21.0	13.0	5.60	3.50	2.04	1.04
CP612	5.00	3.50	2.50	1.45	0.82	0.36	0.22	0.11	0.06
CP620S	7.95	5.36	3.75	2.59	1.46	0.62	0.40	0.19	0.10
CP628	10.5	7.20	5.60	3.20	1.87	0.75	0.49	0.28	0.15
CP632	13.0	8.80	6.10	3.70	2.10	0.89	0.62	0.33	0.17
CP632S	13.1	8.89	6.16	3.74	2.12	0.90	0.63	0.33	0.17
CP632SA	13.1	8.87	6.15	3.72	2.12	0.92	0.63	0.33	0.17
CP640LE	14.1	9.48	7.50	4.42	2.71	1.18	0.72	0.40	0.21
CP642	17.0	11.5	9.05	5.34	3.16	1.31	0.80	0.43	0.22
CP642L	17.0	11.5	9.05	5.34	3.16	1.31	0.80	0.43	0.22
CP645L	15.4	11.7	8.55	4.60	2.91	1.21	0.77	0.45	0.226
CP645T	15.8	12.9	8.91	4.75	3.03	1.23	0.77	0.47	0.231
CP645	16.0	11.2	9.00	4.80	3.06	1.24	0.78	0.47	0.233
CP645LA	16.0	13.0	9.00	4.80	3.06	1.24	0.78	0.47	0.223
CP645H	17.6	14.3	9.90	5.28	3.37	1.37	0.86	0.48	0.235
CP650S	16.1	13.0	9.60	4.99	3.07	1.33	0.81	0.46	0.23
CP650	16.8	13.5	10.0	5.20	3.20	1.39	0.84	0.50	0.26
CP656	21.0	14.0	10.5	5.70	3.40	1.48	1.01	0.53	0.29
CP665E	28.4	18.1	14.4	8.18	4.32	1.80	1.23	0.66	0.34
CP672	28.1	17.3	14.0	8.05	4.70	1.82	1.29	0.66	0.37
CP677	30.6	18.9	15.3	8.77	5.12	1.98	1.30	0.73	0.39
CP680S	32.0	21.3	16.5	9.10	5.60	2.35	1.57	0.83	0.41
CP6100	38.0	25.0	20.0	10.7	6.60	2.73	1.90	0.97	0.52
CP6100TS	-----	-----	-----	13.4	7.78	3.21	1.97	1.02	0.52
CP6120	50.0	34.0	25.0	13.5	7.80	3.31	2.19	1.20	0.64
CP6140T	63.0	42.0	29.5	17.0	9.80	3.96	2.71	1.46	0.73
CP6140TS	-----	-----	-----	17.0	9.80	3.96	2.71	1.46	0.73
CP820	10.3	6.55	4.90	2.79	1.53	0.60	0.39	0.21	0.11
CP832	13.1	8.90	6.20	3.80	2.20	0.91	0.65	0.33	0.17
CP832S	13.1	8.90	6.20	3.80	2.20	0.91	0.65	0.33	0.17
CP1208	3.43	2.20	1.56	0.940	0.523	0.215	0.143	0.079	0.042
CP1212	5.20	3.50	2.43	1.35	0.81	0.35	0.24	0.126	0.06
CP1212S	5.50	3.65	2.50	1.41	0.83	0.35	0.24	0.123	0.06
CP1220C	6.30	4.13	3.23	1.67	1.08	0.43	0.29	0.16	0.08
CP1220M	6.36	4.17	3.26	1.69	1.09	0.43	0.29	0.16	0.09
CP1223C	7.09	4.65	3.63	1.98	1.35	0.54	0.37	0.20	0.10
CP1222S	8.40	5.50	4.30	2.23	1.44	0.57	0.39	0.21	0.11
CP1219	6.68	4.20	3.06	1.90	1.21	0.49	0.34	0.182	0.098
CP1223	9.00	5.70	4.40	2.50	1.46	0.59	0.41	0.22	0.12
CP1223H	11.7	7.40	5.30	3.10	1.70	0.72	0.45	0.239	0.119

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.60 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP1223E	8.78	4.92	3.76	2.59	1.60	0.67	0.43	0.223	0.118
CP1225	12.0	7.50	6.00	3.20	1.80	0.73	0.49	0.263	0.13
CP1225S	12.0	7.50	6.00	3.20	1.80	0.73	0.49	0.263	0.13
CP1226S	9.40	6.84	5.00	2.70	1.64	0.65	0.42	0.25	0.14
CP1226	12.6	7.65	6.08	3.30	1.95	0.78	0.51	0.264	0.133
CP1229	13.8	9.00	7.13	4.20	2.20	0.85	0.55	0.29	0.16
CP1232	12.9	8.71	6.04	3.66	2.08	0.88	0.61	0.33	0.17
CP1232S	12.9	8.71	6.04	3.66	2.08	0.88	0.61	0.33	0.17
CP1240L	14.0	8.50	7.00	4.00	2.60	0.93	0.66	0.38	0.21
CP1240SL	14.0	8.50	7.00	4.00	2.60	0.93	0.66	0.38	0.21
CP1245	15.9	12.9	8.95	4.77	3.04	1.23	0.78	0.47	0.233
CP1245H	22.0	13.5	11.0	5.90	3.60	1.44	0.92	0.472	0.233
CP1245S	16.6	12.0	9.00	5.10	3.20	1.37	0.92	0.45	0.233
CP1250	21.0	12.5	10.0	5.50	3.25	1.39	0.92	0.50	0.26
CP1250H	26.5	17.0	13.0	7.00	4.10	1.55	1.01	0.52	0.27
CP1260	28.0	18.0	14.3	7.99	4.20	1.78	1.22	0.63	0.32
CP1265E	28.4	18.1	14.4	8.18	4.32	1.80	1.23	0.66	0.34
CP1270	29.1	18.4	14.8	8.30	4.56	1.84	1.26	0.70	0.363
CP1270A	31.7	20.0	14.9	8.76	4.68	2.00	1.33	0.718	0.363
CP1270L	28.5	18.3	14.5	8.10	4.40	1.82	1.25	0.69	0.363
CP1270SL	28.5	18.3	14.5	8.10	4.40	1.82	1.25	0.69	0.363
CP1272	29.1	18.4	14.8	8.30	4.56	1.84	1.26	0.70	0.363
CP1280H	32.0	22.0	16.0	9.35	5.50	2.18	1.41	0.77	0.42
CP1290L	32.5	23.1	16.5	9.90	5.65	2.28	1.58	0.86	0.47
CP1290	33.0	24.2	17.0	9.90	5.80	2.33	1.60	0.87	0.47
CP12100E	36.6	25.2	19.8	11.0	6.77	2.80	1.82	0.95	0.51
CP12100S	36.6	25.2	19.8	11.0	6.61	2.76	1.74	0.95	0.51
CP12100	38.6	26.0	20.9	12.0	6.90	2.92	1.92	0.99	0.52
CP12100M	38.6	26.0	20.9	12.0	7.25	3.07	2.02	1.02	0.52
CP12120	46.4	31.7	24.8	13.8	8.14	3.18	2.12	1.18	0.61
CP12150	60.3	40.5	31.0	17.2	10.3	4.15	2.71	1.49	0.78
Cp12170	67.0	45.1	34.3	20.2	12.0	4.65	3.10	1.70	0.89
CP12170X	67.0	45.1	34.3	20.2	12.0	4.65	3.10	1.70	0.89
CP12170H	72.8	49.7	38.4	21.7	13.0	5.20	3.50	1.79	0.92
CP12170HX	72.8	49.7	38.4	21.7	13.0	5.20	3.50	1.79	0.92
CP12200	75.0	51.2	39.6	22.4	13.4	5.36	3.72	1.93	1.07
CP12200HD	85.5	57.6	44.2	26.2	15.0	6.21	3.85	2.00	1.03
CP12240S	87.0	60.8	44.7	26.0	14.4	6.63	4.60	2.44	1.24
CP12240	80.8	48.5	38.3	24.5	15.5	6.77	4.49	2.52	1.25
CP12240X	95.0	64.0	48.0	28.5	16.0	6.74	4.47	2.52	1.24
CP12240H	110	76.0	52.0	31.0	17.0	7.59	4.87	2.53	1.24
CP12240HX	110	76.0	52.0	31.0	17.0	7.59	4.87	2.53	1.24
CP12280S	112	73.0	55.0	32.0	19.6	8.02	5.20	2.81	1.45
CP2445	-----	-----	7.70	4.50	2.70	1.14	0.76	0.42	0.233
CP2480	-----	-----	-----	-----	5.20	2.05	1.39	0.79	0.41

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.65 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP260	27.1	18.2	13.6	7.87	4.66	1.76	1.09	0.58	0.31
CP445	14.9	11.4	8.99	5.28	2.89	1.30	0.90	0.45	0.231
CP445S	15.0	11.7	9.18	5.38	2.95	1.31	0.91	0.449	0.229
CP495	36.0	27.1	19.1	11.0	6.27	2.59	1.80	0.92	0.48
CP4200	75.4	52.4	37.0	20.0	12.4	5.48	3.47	2.00	1.03
CP612	4.71	3.34	2.40	1.39	0.79	0.36	0.22	0.11	0.06
CP620S	7.54	5.10	3.59	2.49	1.41	0.61	0.39	0.19	0.10
CP628	9.95	6.85	5.35	3.07	1.80	0.73	0.48	0.27	0.14
CP632	12.3	8.38	5.83	3.55	2.02	0.86	0.60	0.32	0.16
CP632S	12.5	8.46	5.89	3.59	2.04	0.87	0.61	0.32	0.16
CP632SA	12.4	8.44	5.88	3.57	2.04	0.89	0.61	0.32	0.16
CP640LE	13.7	9.40	7.42	4.37	2.69	1.16	0.71	0.40	0.21
CP642	16.6	11.3	8.96	5.27	3.14	1.28	0.78	0.43	0.22
CP642L	16.6	11.3	8.96	5.27	3.14	1.28	0.78	0.43	0.22
CP645L	14.6	11.0	8.18	4.40	2.80	1.18	0.75	0.44	0.226
CP645T	15.0	12.3	8.52	4.56	2.92	1.19	0.75	0.46	0.229
CP645	15.2	10.7	8.60	4.61	2.95	1.20	0.76	0.46	0.231
CP645LA	15.2	12.4	8.60	4.61	2.95	1.20	0.76	0.46	0.231
CP645H	16.7	13.6	9.46	5.07	3.25	1.33	0.84	0.47	0.231
CP650S	15.3	12.3	9.18	4.79	2.96	1.29	0.79	0.46	0.23
CP650	15.9	12.9	9.56	4.99	3.08	1.35	0.83	0.49	0.26
CP656	19.9	13.3	10.0	5.47	3.28	1.43	0.98	0.52	0.29
CP665E	26.8	17.3	13.9	7.86	4.17	1.75	1.19	0.65	0.335
CP672	26.4	16.8	13.7	7.85	4.65	1.79	1.26	0.66	0.37
CP677	28.8	18.3	14.9	8.56	5.07	1.95	1.29	0.73	0.39
CP680S	30.3	20.3	15.8	8.74	5.40	2.28	1.54	0.81	0.41
CP6100	36.0	23.8	19.1	10.3	6.36	2.64	1.85	0.95	0.51
CP6100TS	-----	-----	-----	12.9	7.50	3.11	1.93	1.01	0.51
CP6120	47.4	32.4	23.9	13.0	7.52	3.21	2.14	1.20	0.64
CP6140T	59.7	40.0	28.2	16.3	9.45	3.83	2.65	1.44	0.72
CP6140TS	-----	-----	-----	16.3	9.45	3.83	2.65	1.44	0.72
CP820	9.63	6.29	4.73	2.70	1.49	0.59	0.38	0.21	0.11
CP832	12.4	8.47	5.93	3.65	2.12	0.88	0.64	0.32	0.16
CP832S	12.4	8.47	5.93	3.65	2.12	0.88	0.64	0.32	0.16
CP1208	3.25	2.10	1.50	0.910	0.510	0.210	0.140	0.078	0.041
CP1212	4.93	3.33	2.32	1.30	0.78	0.34	0.23	0.123	0.06
CP1212S	5.21	3.47	2.39	1.35	0.80	0.34	0.24	0.12	0.06
CP1220C	5.97	3.93	3.09	1.60	1.04	0.41	0.29	0.16	0.08
CP1220M	6.03	3.97	3.12	1.62	1.05	0.41	0.29	0.16	0.08
CP1223C	6.72	4.42	3.48	1.90	1.30	0.51	0.36	0.20	0.10
CP1222S	7.96	5.24	4.11	2.14	1.39	0.55	0.38	0.21	0.11
CP1219	6.46	4.17	3.03	1.82	1.20	0.49	0.34	0.181	0.097
CP1223	8.64	5.47	4.27	2.41	1.38	0.57	0.40	0.22	0.12
CP1223H	11.1	7.04	5.07	2.98	1.64	0.69	0.44	0.235	0.118

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.65 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP1223E	8.61	4.88	3.70	2.54	1.54	0.67	0.42	0.222	0.117
CP1225	11.4	7.14	5.74	3.07	1.74	0.70	0.48	0.259	0.128
CP1225S	11.4	7.14	5.74	3.07	1.74	0.70	0.48	0.259	0.128
CP1226S	8.90	6.52	4.78	2.59	1.58	0.63	0.41	0.24	0.14
CP1226	12.0	7.30	5.80	3.17	1.90	0.75	0.50	0.265	0.132
CP1229	13.1	8.57	6.82	4.04	2.12	0.82	0.54	0.28	0.15
CP1232	12.2	8.29	5.77	3.51	2.01	0.85	0.59	0.32	0.16
CP1232S	12.2	8.29	5.77	3.51	2.01	0.85	0.59	0.32	0.16
CP1240L	13.3	8.09	6.69	3.84	2.51	0.90	0.65	0.38	0.21
CP1240SL	13.3	8.09	6.69	3.84	2.51	0.90	0.65	0.38	0.21
CP1245	15.1	12.3	8.56	4.58	2.93	1.19	0.76	0.46	0.231
CP1245H	20.9	12.9	10.5	5.66	3.47	1.40	0.90	0.464	0.231
CP1245S	15.7	11.4	8.60	4.90	3.08	1.33	0.90	0.449	0.231
CP1250	19.9	11.9	9.56	5.28	3.13	1.35	0.90	0.49	0.26
CP1250H	25.4	16.4	12.5	6.81	4.02	1.51	0.98	0.51	0.26
CP1260	26.6	17.1	13.8	7.67	4.08	1.74	1.15	0.63	0.32
CP1265E	26.8	17.3	13.9	7.86	4.17	1.75	1.19	0.65	0.335
CP1270	27.5	17.5	14.2	7.90	4.40	1.80	1.22	0.69	0.359
CP1270A	29.8	19.7	14.5	8.68	4.57	1.93	1.28	0.706	0.359
CP1270L	27.0	17.4	14.0	7.84	4.28	1.78	1.18	0.68	0.359
CP1270SL	27.0	17.4	14.0	7.84	4.28	1.78	1.18	0.68	0.359
CP1272	27.5	17.5	14.2	7.90	4.40	1.80	1.22	0.69	0.359
CP1280H	31.3	21.5	15.6	9.15	5.43	2.14	1.38	0.77	0.42
CP1290L	31.8	22.6	16.0	9.79	5.58	2.24	1.55	0.85	0.46
CP1290	32.1	23.6	16.5	9.79	5.75	2.29	1.56	0.86	0.46
CP12100E	34.5	24.0	18.8	10.6	6.52	2.74	1.78	0.95	0.51
CP12100S	34.5	24.0	18.8	10.6	6.32	2.62	1.70	0.95	0.51
CP12100	36.6	24.8	19.9	11.4	6.65	2.85	1.84	0.97	0.51
CP12100M	36.6	24.8	19.9	11.4	6.98	2.99	1.93	1.01	0.51
CP12120	45.0	30.8	24.3	13.5	8.04	3.15	2.10	1.17	0.61
CP12150	57.2	38.6	29.7	16.6	9.97	4.02	2.65	1.46	0.77
Cp12170	64.6	44.0	33.5	19.8	11.8	4.57	3.05	1.68	0.88
CP12170X	64.6	44.0	33.5	19.8	11.8	4.57	3.05	1.68	0.88
CP12170H	71.1	48.4	37.5	21.4	12.8	5.12	3.44	1.76	0.91
CP12170HX	71.1	48.4	37.5	21.4	12.8	5.12	3.44	1.76	0.91
CP12200	73.3	49.9	38.7	22.1	13.2	5.28	3.63	1.93	1.07
CP12200HD	81.1	54.8	42.2	25.2	14.5	6.02	3.83	1.99	1.02
CP12240S	82.5	57.9	42.7	25.0	13.9	6.42	4.50	2.40	1.23
CP12240	76.0	46.0	36.5	23.5	14.8	6.53	4.36	2.47	1.23
CP12240X	90.1	60.9	45.9	27.4	15.4	6.53	4.36	2.47	1.23
CP12240H	104	72.4	49.7	29.8	16.4	7.36	4.76	2.48	1.23
CP12240HX	104	72.4	49.7	29.8	16.4	7.36	4.76	2.48	1.23
CP12280S	106	69.5	52.6	30.7	18.9	7.77	5.08	2.77	1.44
CP2445	-----	-----	7.36	4.32	2.60	1.11	0.74	0.42	0.231
CP2480	-----	-----	-----	-----	5.01	1.99	1.36	0.77	0.41

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.70 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP260	25.4	16.9	12.9	7.52	4.47	1.70	1.06	0.58	0.30
CP445	14.0	10.8	8.56	5.05	2.78	1.25	0.88	0.449	0.228
CP445S	14.2	11.1	8.74	5.14	2.83	1.26	0.89	0.449	0.227
CP495	34.0	25.7	18.2	10.6	6.02	2.50	1.75	0.91	0.478
CP4200	70.7	49.6	35.4	18.9	11.8	5.30	3.43	1.96	1.01
CP612	4.36	3.12	2.27	1.31	0.75	0.35	0.21	0.11	0.06
CP620S	7.11	4.84	3.41	2.38	1.35	0.58	0.38	0.19	0.10
CP628	9.39	6.50	5.10	2.94	1.73	0.70	0.46	0.27	0.14
CP632	11.6	7.94	5.55	3.40	1.94	0.83	0.59	0.32	0.16
CP632S	11.7	8.02	5.61	3.43	1.96	0.84	0.60	0.32	0.16
CP632SA	11.7	8.01	5.60	3.41	1.96	0.86	0.60	0.32	0.16
CP640LE	13.3	9.22	7.33	4.32	2.67	1.13	0.69	0.39	0.20
CP642	16.1	11.1	8.84	5.22	3.12	1.25	0.77	0.42	0.21
CP642L	16.1	11.1	8.84	5.22	3.12	1.25	0.77	0.42	0.21
CP645L	13.8	10.3	7.78	4.21	2.68	1.14	0.73	0.43	0.226
CP645T	14.2	11.6	8.11	4.36	2.80	1.15	0.73	0.45	0.227
CP645	14.3	10.1	8.19	4.41	2.83	1.16	0.74	0.45	0.228
CP645LA	14.3	11.7	8.19	4.41	2.83	1.16	0.74	0.45	0.228
CP645H	15.7	12.9	9.01	4.85	3.12	1.28	0.81	0.46	0.227
CP650S	14.4	11.7	8.74	4.58	2.84	1.25	0.77	0.46	0.23
CP650	15.0	12.2	9.10	4.77	2.96	1.30	0.80	0.48	0.25
CP656	18.8	12.6	9.60	5.23	3.15	1.38	0.96	0.51	0.28
CP665E	25.3	16.4	13.3	7.51	4.00	1.69	1.15	0.64	0.33
CP672	25.5	16.4	13.4	7.70	4.57	1.75	1.25	0.66	0.37
CP677	27.8	17.9	14.6	8.39	4.98	1.91	1.27	0.73	0.385
CP680S	28.6	19.2	15.0	8.35	5.18	2.20	1.51	0.80	0.41
CP6100	34.0	22.6	18.2	9.82	6.11	2.55	1.80	0.93	0.51
CP6100TS	-----	-----	-----	12.3	7.20	3.00	1.88	1.00	0.51
CP6120	44.7	30.7	22.8	12.4	7.22	3.10	2.08	1.18	0.62
CP6140T	56.3	37.9	26.8	15.6	9.07	3.70	2.58	1.41	0.71
CP6140TS	-----	-----	-----	15.6	9.07	3.70	2.58	1.41	0.71
CP820	8.96	6.02	4.55	2.61	1.45	0.58	0.37	0.20	0.11
CP832	11.7	8.03	5.64	3.49	2.04	0.85	0.62	0.32	0.16
CP832S	11.7	8.03	5.64	3.49	2.04	0.85	0.62	0.32	0.16
CP1208	3.08	2.00	1.44	0.880	0.498	0.205	0.138	0.077	0.041
CP1212	4.65	3.16	2.21	1.24	0.75	0.33	0.23	0.118	0.06
CP1212S	4.92	3.29	2.28	1.29	0.77	0.33	0.23	0.118	0.06
CP1220C	5.63	3.73	2.94	1.53	1.00	0.40	0.28	0.15	0.08
CP1220M	5.69	3.77	2.97	1.55	1.01	0.40	0.28	0.15	0.08
CP1223C	6.33	4.20	3.31	1.82	1.25	0.50	0.35	0.19	0.10
CP1222S	7.51	4.96	3.91	2.05	1.33	0.53	0.37	0.20	0.11
CP1219	6.24	4.14	3.00	1.74	1.18	0.48	0.34	0.180	0.096
CP1223	8.27	5.23	4.13	2.29	1.29	0.54	0.39	0.21	0.12
CP1223H	10.5	6.68	4.82	2.85	1.57	0.67	0.43	0.229	0.117

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.70 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP1223E	8.35	4.80	3.64	2.48	1.46	0.66	0.42	0.222	0.116
CP1225	10.7	6.77	5.46	2.94	1.67	0.68	0.46	0.254	0.127
CP1225S	10.7	6.77	5.46	2.94	1.67	0.68	0.46	0.254	0.127
CP1226S	8.40	6.17	4.54	2.48	1.52	0.61	0.40	0.24	0.13
CP1226	11.3	6.95	5.59	3.04	1.83	0.72	0.49	0.26	0.131
CP1229	12.3	8.12	6.48	3.86	2.04	0.79	0.52	0.27	0.15
CP1232	11.5	7.86	5.50	3.36	1.92	0.82	0.58	0.32	0.16
CP1232S	11.5	7.86	5.5	3.36	1.92	0.82	0.58	0.32	0.16
CP1240L	12.5	7.67	6.37	3.67	2.41	0.87	0.65	0.37	0.20
CP1240SL	12.5	7.67	6.37	3.67	2.41	0.87	0.65	0.37	0.20
CP1245	14.2	11.7	5.15	4.38	2.81	1.15	0.74	0.45	0.228
CP1245H	19.7	12.2	10.0	5.41	3.33	1.35	0.88	0.455	0.228
CP1245S	14.8	10.8	8.19	4.68	2.96	1.28	0.88	0.447	0.228
CP1250	18.8	11.3	9.10	5.05	3.01	1.30	0.88	0.48	0.25
CP1250H	24.3	15.7	11.9	6.62	3.93	1.48	0.97	0.50	0.26
CP1260	25.2	16.2	13.2	7.35	3.95	1.70	1.10	0.60	0.32
CP1265E	25.3	16.4	13.3	7.51	4.00	1.69	1.15	0.64	0.33
CP1270	26.0	16.7	13.6	7.62	4.22	1.74	1.17	0.69	0.355
CP1270A	28.1	19.4	14.1	8.61	4.46	1.87	1.23	0.691	0.355
CP1270L	25.5	16.5	13.4	7.52	4.15	1.72	1.13	0.67	0.355
CP1270SL	25.5	16.5	13.4	7.52	4.15	1.72	1.13	0.67	0.355
CP1272	26.0	16.7	13.6	7.62	4.22	1.74	1.17	0.69	0.355
CP1280H	28.6	20.9	15.2	8.92	5.31	2.10	1.36	0.77	0.42
CP1290L	29.4	21.9	15.7	9.36	5.46	2.20	1.51	0.83	0.46
CP1290	30.9	22.9	16.1	9.36	5.71	2.25	1.55	0.84	0.46
CP12100E	32.1	23.3	17.9	10.1	6.21	2.63	1.73	0.94	0.51
CP12100S	32.1	23.3	17.9	10.1	6.06	2.48	1.65	0.94	0.51
CP12100	34.5	23.9	18.8	10.7	6.39	2.70	1.76	0.95	0.51
CP12100M	34.5	23.9	18.8	10.7	6.71	2.84	1.85	1.00	0.51
CP12120	43.5	29.9	23.7	13.3	7.94	3.12	2.07	1.16	0.61
CP12150	53.9	36.6	28.2	15.8	9.57	3.88	2.58	1.43	0.76
CP12170	62.2	42.9	32.6	19.3	11.6	4.49	3.00	1.65	0.87
CP12170X	62.2	42.9	32.6	19.3	11.6	4.49	3.00	1.65	0.87
CP12170H	69.3	47.2	36.7	21.0	12.6	5.04	3.37	1.73	0.90
CP12170HX	69.3	47.2	36.7	21.0	12.6	5.04	3.37	1.73	0.90
CP12200	71.5	48.7	37.8	21.7	13.0	5.20	3.54	1.90	1.04
CP12200HD	76.4	52.0	40.2	24.1	13.9	5.80	3.81	1.98	1.01
CP12240S	77.8	54.9	40.7	23.9	13.3	6.20	4.38	2.35	1.22
CP12240	71.3	43.5	34.8	22.5	14.2	6.29	4.23	2.42	1.22
CP12240X	84.9	57.8	43.7	26.2	14.8	6.30	4.24	2.42	1.22
CP12240H	98.3	68.6	47.3	28.5	15.7	7.10	4.64	2.43	1.22
CP12240HX	98.3	68.6	47.3	28.5	15.7	7.10	4.64	2.43	1.22
CP12280S	100	65.9	50.1	29.4	18.1	7.50	4.95	2.71	1.42
CP2445	-----	-----	7.01	4.13	2.50	1.07	0.72	0.41	0.228
CP2480	-----	-----	-----	-----	4.81	1.92	1.32	0.76	0.41

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.75 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP260	24.0	15.4	12.3	7.15	4.27	1.65	1.04	0.55	0.30
CP445	13.2	10.2	8.11	4.81	2.65	1.20	0.85	0.447	0.225
CP445S	13.3	10.5	8.28	4.89	2.71	1.21	0.86	0.447	0.225
CP495	31.9	24.3	17.3	10.1	5.75	2.40	1.70	0.90	0.475
CP4200	66.9	46.9	33.2	18.7	11.2	5.05	3.40	1.92	1.00
CP612	4.00	2.88	2.11	1.21	0.69	0.33	0.21	0.11	0.06
CP620S	6.67	4.57	3.24	2.26	1.29	0.55	0.37	0.19	0.10
CP628	8.80	6.13	4.83	2.80	1.65	0.67	0.45	0.26	0.14
CP632	10.9	7.50	5.26	3.23	1.86	0.80	0.57	0.31	0.16
CP632S	11.0	7.57	5.31	3.27	1.88	0.81	0.58	0.31	0.16
CP632SA	11.0	7.56	5.31	3.25	1.88	0.83	0.58	0.31	0.16
CP640LE	12.9	9.05	7.19	4.25	2.63	1.11	0.67	0.38	0.20
CP642	15.5	10.9	8.68	5.12	3.07	1.23	0.75	0.41	0.21
CP642L	15.5	10.9	8.68	5.12	3.07	1.23	0.75	0.41	0.21
CP645L	12.8	9.70	7.38	4.00	2.57	1.09	0.71	0.43	0.225
CP645T	13.3	11.0	7.69	4.15	2.68	1.10	0.71	0.44	0.225
CP645	13.4	9.50	7.77	4.19	2.71	1.11	0.72	0.44	0.225
CP645LA	13.4	11.1	7.77	4.19	2.71	1.11	0.72	0.44	0.225
CP645H	14.8	12.2	8.54	4.61	2.98	1.23	0.79	0.45	0.225
CP650S	13.5	11.0	8.28	4.36	2.72	1.20	0.75	0.45	0.23
CP650	14.1	11.5	8.63	4.54	2.83	1.25	0.78	0.47	0.25
CP656	17.6	11.9	9.10	4.98	3.01	1.32	0.93	0.50	0.28
CP665E	23.8	15.4	12.7	7.15	3.83	1.62	1.11	0.63	0.325
CP672	23.7	15.9	13.1	7.45	4.46	1.70	1.20	0.65	0.36
CP677	25.8	17.3	14.3	8.12	4.86	1.85	1.25	0.72	0.385
CP680S	26.8	18.2	14.2	7.95	4.95	2.11	1.46	0.78	0.40
CP6100	31.9	21.3	17.3	9.35	5.84	2.45	1.75	0.91	0.50
CP6100TS	-----	-----	-----	11.7	6.88	2.88	1.82	0.98	0.50
CP6120	41.9	29.0	21.6	11.8	6.90	2.98	2.02	1.15	0.60
CP6140T	52.8	35.8	25.5	14.9	8.67	3.55	2.50	1.38	0.70
CP6140TS	-----	-----	-----	14.9	8.67	3.55	2.50	1.38	0.70
CP820	8.29	5.75	4.37	2.51	1.40	0.56	0.36	0.19	0.10
CP832	11.0	7.58	5.35	3.32	1.95	0.82	0.60	0.31	0.16
CP832S	11.0	7.58	5.35	3.32	1.95	0.82	0.60	0.31	0.16
CP1208	2.90	1.90	1.38	0.850	0.485	0.200	0.135	0.076	0.040
CP1212	4.36	2.98	2.10	1.18	0.72	0.31	0.22	0.115	0.06
CP1212S	4.61	3.11	2.16	1.23	0.73	0.32	0.22	0.115	0.06
CP1220C	5.28	3.52	2.79	1.46	0.96	0.38	0.27	0.15	0.08
CP1220M	5.33	3.56	2.82	1.47	0.97	0.38	0.27	0.15	0.08
CP1223C	5.94	3.96	3.14	1.73	1.20	0.48	0.34	0.19	0.10
CP1222S	7.04	4.69	3.71	1.95	1.27	0.51	0.36	0.20	0.11
CP1219	5.71	4.10	2.97	1.66	1.16	0.48	0.33	0.179	0.095
CP1223	7.89	4.98	3.98	2.16	1.19	0.49	0.37	0.20	0.115
CP1223H	9.81	6.30	4.57	2.71	1.50	0.64	0.42	0.226	0.115

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.75 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP1223E	8.10	4.68	3.58	2.43	1.40	0.66	0.42	0.222	0.115
CP1225	10.1	6.39	5.18	2.80	1.59	0.65	0.45	0.248	0.125
CP1225S	10.1	6.39	5.18	2.80	1.59	0.65	0.45	0.248	0.125
CP1226S	7.90	5.83	4.32	2.36	1.45	0.59	0.39	0.23	0.13
CP1226	10.6	6.45	5.38	2.90	1.77	0.69	0.48	0.258	0.13
CP1229	11.6	7.67	6.15	3.67	1.95	0.77	0.51	0.26	0.145
CP1232	10.1	7.42	5.21	3.20	1.84	0.79	0.56	0.31	0.16
CP1232S	10.1	7.42	5.21	3.20	1.84	0.79	0.56	0.31	0.16
CP1240L	11.7	7.24	6.04	3.49	2.30	0.84	0.64	0.36	0.20
CP1240SL	11.7	7.24	6.04	3.49	2.30	0.84	0.64	0.36	0.20
CP1245	13.3	11.0	7.72	4.17	2.69	1.10	0.72	0.44	0.225
CP1245H	18.5	11.5	9.49	5.15	3.18	1.30	0.85	0.445	0.225
CP1245S	13.9	10.2	7.77	4.46	2.83	1.23	0.85	0.445	0.225
CP1250	17.6	10.6	8.63	4.81	2.88	1.25	0.85	0.47	0.25
CP1250H	23.1	15.1	11.4	6.41	3.85	1.44	0.96	0.50	0.25
CP1260	23.7	15.4	12.6	7.00	3.75	1.63	1.05	0.56	0.30
CP1265E	23.8	15.4	12.7	7.15	3.83	1.62	1.11	0.63	0.325
CP1270	24.4	15.7	13.0	7.24	4.04	1.68	1.13	0.68	0.350
CP1270A	26.3	18.8	13.7	8.53	4.35	1.77	1.18	0.682	0.350
CP1270L	24.0	15.7	12.8	7.05	3.95	1.65	1.08	0.65	0.35
CP1270SL	24.0	15.7	12.8	7.05	3.95	1.65	1.08	0.65	0.35
CP1272	24.4	15.7	13.0	7.24	4.24	1.68	1.13	0.68	0.35
CP1280H	28.0	20.1	13.7	8.60	5.18	2.05	1.34	0.76	0.40
CP1290L	28.8	21.1	14.2	8.91	5.28	2.15	1.46	0.81	0.45
CP1290	30.3	22.1	14.6	8.91	5.66	2.20	1.54	0.82	0.45
CP12100E	30.7	22.7	16.9	9.61	6.07	2.52	1.67	0.91	0.50
CP12100S	30.7	22.7	16.9	9.61	5.80	2.34	1.60	0.91	0.50
CP12100	32.4	23.1	17.7	10.0	6.10	2.55	1.69	0.93	0.50
CP12100M	32.4	23.1	17.7	10.0	6.41	2.68	1.77	0.97	0.50
CP12120	42.1	29.0	23.2	13.0	7.85	3.09	2.05	1.14	0.60
CP12150	50.6	34.5	26.8	15.1	9.15	3.72	2.50	1.40	0.75
CP12170	59.8	41.7	31.8	18.9	11.3	4.40	2.94	1.63	0.85
CP12170X	59.8	41.7	31.8	18.9	11.3	4.40	2.94	1.63	0.85
CP12170H	67.6	46.0	35.8	20.7	12.4	4.96	3.31	1.69	0.85
CP12170HX	67.6	46.0	35.8	20.7	12.4	4.96	3.31	1.69	0.85
CP12200	69.7	47.4	36.9	21.4	12.8	5.11	3.45	1.85	1.00
CP12200HD	71.7	49.1	37.8	22.9	13.3	5.57	3.80	1.97	1.00
CP12240S	73.0	51.8	38.6	22.7	12.7	5.95	4.25	2.30	1.20
CP12240	66.5	41.0	33.0	21.5	13.5	6.05	4.10	2.37	1.20
CP12240X	79.7	54.5	41.1	24.9	14.2	6.05	4.10	2.37	1.20
CP12240H	92.2	64.7	44.9	27.1	15.0	6.82	4.50	2.38	1.20
CP12240HX	92.2	64.7	44.9	27.1	15.0	6.82	4.50	2.38	1.20
CP12280S	93.9	62.2	47.5	28.0	17.3	7.20	4.80	2.65	1.40
CP2445	-----	-----	6.64	3.93	2.39	1.03	0.70	0.40	0.225
CP2480	-----	-----	-----	-----	4.60	1.84	1.28	0.74	0.40

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.80 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP260	22.3	13.7	11.6	6.77	4.07	1.57	0.99	0.53	0.30
CP445	12.3	9.61	7.66	4.56	2.53	1.15	0.82	0.445	0.221
CP445S	12.4	9.85	7.82	4.64	2.58	1.16	0.83	0.444	0.223
CP495	29.7	22.8	16.3	9.53	5.47	2.29	1.64	0.87	0.472
CP4200	61.3	44.0	30.9	17.5	10.5	4.88	3.37	1.87	0.98
CP612	3.55	2.61	1.95	1.08	0.63	0.31	0.21	0.11	0.06
CP620S	6.22	4.29	3.05	2.15	1.23	0.53	0.37	0.19	0.10
CP628	8.21	5.77	4.56	2.65	1.58	0.64	0.43	0.25	0.14
CP632	10.2	7.05	4.97	3.06	1.77	0.76	0.55	0.30	0.16
CP632S	10.3	7.12	5.02	3.10	1.79	0.77	0.56	0.30	0.16
CP632SA	10.3	7.10	5.01	3.08	1.79	0.79	0.56	0.30	0.16
CP640LE	11.9	8.35	7.07	4.14	2.56	1.08	0.67	0.37	0.20
CP642	14.4	10.1	8.54	5.00	2.99	1.19	0.74	0.40	0.21
CP642L	14.4	10.1	8.54	5.00	2.99	1.19	0.74	0.40	0.21
CP645L	12.1	9.00	6.97	3.80	2.45	1.03	0.69	0.42	0.223
CP645T	12.4	10.3	7.26	3.93	2.55	1.06	0.69	0.43	0.223
CP645	12.5	9.00	7.33	3.98	2.58	1.06	0.69	0.43	0.221
CP645LA	12.5	10.4	7.33	3.98	2.58	1.06	0.69	0.43	0.221
CP645H	13.8	11.5	8.06	4.37	2.84	1.17	0.76	0.44	0.223
CP650S	12.6	10.4	7.82	4.13	2.59	1.15	0.72	0.44	0.23
CP650	13.1	10.8	8.14	4.31	2.70	1.19	0.75	0.46	0.25
CP656	16.4	11.2	8.60	4.72	2.86	1.27	0.90	0.49	0.28
CP665E	22.2	14.6	12.3	6.96	3.64	1.56	1.03	0.60	0.32
CP672	21.2	15.4	12.3	7.00	4.30	1.64	1.19	0.65	0.36
CP677	23.1	16.8	13.4	7.63	4.69	1.79	1.24	0.72	0.385
CP680S	25.0	17.1	13.4	7.54	4.72	2.02	1.42	0.76	0.39
CP6100	29.7	20.0	16.3	8.86	5.56	2.34	1.69	0.89	0.49
CP6100TS	-----	-----	-----	11.1	6.55	2.75	1.76	0.95	0.49
CP6120	39.1	27.2	20.4	11.2	6.57	2.85	1.95	1.12	0.58
CP6140T	49.3	33.6	24.0	14.1	8.25	3.40	2.41	1.34	0.69
CP6140TS	-----	-----	-----	14.1	8.25	3.40	2.41	1.34	0.69
CP820	7.62	5.50	4.19	2.41	1.35	0.54	0.35	0.19	0.10
CP832	10.3	7.13	5.05	3.15	1.85	0.78	0.58	0.30	0.16
CP832S	10.3	7.13	5.05	3.15	1.85	0.78	0.58	0.30	0.16
CP1208	2.73	1.80	1.32	0.820	0.473	0.195	0.133	0.075	0.040
CP1212	4.07	2.80	1.98	1.12	0.69	0.30	0.21	0.113	0.06
CP1212S	4.30	2.92	2.04	1.17	0.70	0.30	0.22	0.112	0.06
CP1220C	4.93	3.31	2.63	1.38	0.91	0.37	0.26	0.15	0.08
CP1220M	4.98	3.34	2.66	1.39	0.92	0.37	0.26	0.15	0.08
CP1223C	5.55	3.72	2.96	1.64	1.14	0.46	0.33	0.19	0.10
CP1222S	6.57	4.40	3.50	1.85	1.21	0.49	0.35	0.19	0.11
CP1219	5.50	4.05	2.95	1.58	1.14	0.47	0.33	0.178	0.094
CP1223	7.50	4.72	3.82	2.02	1.08	0.45	0.34	0.18	0.103
CP1223H	9.15	5.93	4.32	2.57	1.43	0.61	0.41	0.221	0.113

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Current Discharge performance (Amperes)

Constant Current Discharge (Amperes) at 25 ℃ to 1.80 volts per cell									
Battery Type	5min	10min	15min	30min	1h	3h	5h	10h	20h
CP1223E	7.60	4.55	3.53	2.38	1.33	0.65	0.41	0.221	0.114
CP1225	9.39	6.01	4.89	2.65	1.52	0.62	0.43	0.242	0.123
CP1225S	9.39	6.01	4.89	2.65	1.52	0.62	0.43	0.242	0.123
CP1226S	7.40	5.48	4.07	2.23	1.38	0.56	0.38	0.22	0.13
CP1226	9.60	6.16	5.00	2.72	1.70	0.66	0.46	0.255	0.128
CP1229	10.9	7.22	5.81	3.48	1.85	0.73	0.49	0.26	0.14
CP1232	9.39	6.98	4.92	3.03	1.75	0.75	0.54	0.30	0.16
CP1232S	9.39	6.98	4.92	3.03	1.75	0.75	0.54	0.30	0.16
CP1240L	11.0	6.81	5.70	3.31	2.19	0.84	0.62	0.35	0.20
CP1240SL	11.0	6.81	5.70	3.31	2.19	0.80	0.62	0.35	0.20
CP1245	12.4	10.4	7.29	3.95	2.56	1.06	0.69	0.43	0.221
CP1245H	17.2	10.8	8.96	4.89	3.03	1.24	0.82	0.433	0.221
CP1245S	13.0	9.61	7.33	4.22	2.70	1.17	0.82	0.44	0.221
CP1250	16.4	10.0	8.14	4.56	2.74	1.19	0.82	0.46	0.25
CP1250H	21.8	14.4	10.8	6.20	3.76	1.40	0.95	0.50	0.25
CP1260	21.7	14.0	12.2	6.78	3.53	1.60	1.03	0.51	0.28
CP1265E	22.2	14.6	12.3	6.96	3.64	1.56	1.03	0.60	0.32
CP1270	22.8	14.8	12.4	7.03	3.84	1.63	1.08	0.66	0.344
CP1270A	24.1	17.8	13.1	8.33	4.21	1.65	1.12	0.664	0.344
CP1270L	22.3	14.3	12.3	6.92	3.76	1.62	1.05	0.63	0.344
CP1270SL	22.3	14.3	12.3	6.92	3.76	1.62	1.05	0.63	0.344
CP1272	22.8	14.8	12.4	7.03	3.84	1.63	1.08	0.66	0.344
CP1280H	27.2	19.3	13.0	8.25	5.02	2.00	1.32	0.76	0.40
CP1290L	28.1	20.3	13.5	8.45	5.12	2.09	1.41	0.79	0.44
CP1290	29.6	21.0	13.9	8.45	5.51	2.14	1.53	0.82	0.44
CP12100E	29.7	21.3	15.8	9.11	5.74	2.41	1.62	0.90	0.49
CP12100S	29.7	21.3	15.8	9.11	5.50	2.20	1.56	0.90	0.49
CP12100	30.2	21.5	16.6	9.30	5.81	2.44	1.63	0.91	0.49
CP12100M	30.2	21.5	16.6	9.30	6.10	2.56	1.71	0.96	0.49
CP12120	40.6	28.2	22.6	12.7	7.75	3.06	2.02	1.12	0.59
CP12150	47.2	32.4	25.3	14.3	8.71	3.56	2.41	1.36	0.74
CP12170	57.4	40.6	30.9	18.4	11.1	4.32	2.89	1.60	0.84
CP12170X	57.4	40.6	30.9	18.4	11.1	4.32	2.89	1.60	0.84
CP12170H	65.9	44.7	34.9	20.4	12.2	4.88	3.24	1.65	0.84
CP12170HX	65.9	44.7	34.9	20.4	12.2	4.88	3.24	1.65	0.84
CP12200	67.9	46.1	36.0	21.0	12.5	5.03	3.36	1.76	0.95
CP12200HD	66.9	46.2	36.0	21.7	12.7	5.32	3.78	1.95	0.99
CP12240S	68.1	48.7	36.4	21.5	12.1	5.69	4.10	2.24	1.18
CP12240	61.8	38.5	31.3	20.5	12.9	5.81	3.97	2.32	1.19
CP12240X	74.3	51.3	39.1	23.6	13.5	5.78	3.95	2.31	1.18
CP12240H	86.1	60.9	42.4	25.7	14.3	6.52	4.34	2.32	1.18
CP12240HX	86.1	60.9	42.4	25.7	14.3	6.52	4.34	2.32	1.18
CP12280S	87.6	58.5	44.8	26.5	16.5	6.88	4.63	2.58	1.38
CP2445	-----	-----	6.27	3.73	2.27	0.98	0.68	0.39	0.221
CP2480	-----	-----	-----	-----	4.38	1.76	1.24	0.72	0.39

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance (Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.60 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP260	52.4	34.0	28.0	17.2	12.2	9.64	5.24	3.78	2.29
CP445	30.7	19.2	15.9	9.33	7.24	5.49	3.51	2.50	1.81
CP445S	29.2	19.6	16.2	9.52	7.39	5.60	3.59	2.56	1.84
CP495	66.1	41.3	34.2	20.1	15.6	11.8	7.56	5.25	3.54
CP4200	156	105	74.1	41.0	38.0	26.0	14.5	11.4	6.71
CP612	8.80	6.02	4.80	2.75	2.08	1.64	1.00	0.72	0.50
CP620S	14.5	9.79	7.46	4.29	2.96	2.56	1.64	1.22	0.80
CP628	20.7	14.0	10.7	6.13	4.23	3.67	2.13	1.48	0.97
CP632	23.0	15.3	11.8	7.17	5.33	4.10	2.42	1.81	1.24
CP632S	23.2	15.5	12.0	7.24	5.39	4.14	2.44	1.79	1.23
CP632SA	21.0	14.0	10.9	6.64	4.97	3.85	2.56	1.83	1.24
CP640LE	26.3	17.7	13.8	8.19	6.11	5.07	2.90	2.18	1.49
CP642	29.9	20.8	16.1	9.61	7.12	5.88	3.26	2.39	1.64
CP642L	29.9	20.8	16.1	9.61	7.12	5.88	3.26	2.39	1.64
CP645L	30.4	20.0	15.9	9.60	7.29	5.70	3.24	2.45	1.58
CP645T	28.8	20.1	15.9	8.70	6.90	5.50	3.38	2.36	1.53
CP645	32.0	22.3	17.1	9.67	7.50	5.80	3.41	2.46	1.59
CP645LA	32.0	22.3	17.7	9.67	7.67	5.00	3.41	2.46	1.59
CP645H	33.3	24.0	18.7	11.0	8.33	6.67	3.91	2.59	1.73
CP650S	30.0	21.4	16.7	9.58	7.12	5.89	3.36	2.47	1.68
CP650	33.3	23.2	18.2	10.4	7.74	6.40	3.65	2.63	1.77
CP656	40.0	26.0	20.3	11.7	8.70	7.20	4.09	2.82	1.92
CP665E	50.9	34.5	26.9	14.9	11.3	8.74	4.98	3.50	2.26
CP672	53.3	34.0	27.9	16.0	12.0	9.37	5.05	3.60	2.25
CP677	58.1	37.1	30.4	17.4	13.1	10.2	5.50	3.96	2.48
CP680S	63.0	40.3	33.0	18.9	14.2	11.1	7.51	4.67	3.10
CP6100	71.0	49.6	40.0	23.6	17.6	13.7	7.62	5.33	3.75
CP6100TS	-----	-----	-----	27.9	20.8	15.5	9.35	6.34	3.93
CP6120	88.0	59.2	47.7	26.8	21.0	15.6	9.78	6.60	4.37
CP6140T	109	72.8	58.3	34.1	24.5	20.5	11.0	7.71	5.37
CP6140TS	-----	-----	-----	34.1	24.5	20.5	11.0	7.71	5.37
CP820	17.5	11.8	9.29	5.56	3.83	3.05	1.71	1.19	0.75
CP832	23.3	15.7	12.0	7.33	5.30	4.10	2.42	1.81	1.24
CP832S	23.3	15.7	12.0	7.33	5.30	4.10	2.42	1.81	1.24
CP1208	6.05	4	2.87	1.74	1.25	0.99	0.58	0.416	0.28
CP1212	9.00	5.67	4.67	2.67	2.07	1.63	0.88	0.66	0.48
CP1212S	9.67	6.17	5.00	2.83	2.10	1.67	0.89	0.67	0.47
CP1220C	11.7	8.03	6.20	3.32	2.52	2.03	1.21	0.86	0.58
CP1220M	11.8	8.11	6.26	3.35	2.55	2.05	1.19	0.87	0.59
CP1223C	13.2	9.03	6.98	3.94	3.08	2.54	1.52	1.08	0.73
CP1222S	16.5	10.7	8.27	4.40	3.41	2.70	1.60	1.14	0.77
CP1219	11.1	7.37	5.81	3.40	2.73	2.27	1.24	0.90	0.65
CP1223	17.5	11.0	8.50	4.83	3.50	2.78	1.54	1.08	0.75
CP1223H	19.3	13.8	10.5	5.83	4.17	3.33	2.16	1.42	0.89

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance (Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.60 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP1223E	14.3	9.60	7.19	4.80	3.57	2.95	1.72	1.31	0.833
CP1225	22.3	15.0	11.7	6.17	4.30	3.50	2.00	1.46	0.96
CP1225S	22.3	15.0	11.7	6.17	4.30	3.50	2.00	1.46	0.96
CP1226S	17.5	12.5	9.50	5.20	3.97	3.20	1.87	1.30	0.90
CP1226	23.0	15.3	12.3	6.45	4.90	3.80	2.10	1.55	1.00
CP1229	27.0	17.5	14.0	8.45	6.07	4.65	2.63	1.78	1.17
CP1232	22.8	15.2	11.7	7.10	5.28	4.06	2.24	1.76	1.21
CP1232S	22.8	15.2	11.7	7.10	5.28	4.06	2.24	1.76	1.21
CP1240L	26.8	16.7	13.3	8.33	6.00	4.83	2.99	1.86	1.22
CP1240SL	26.8	16.7	13.3	8.33	6.00	4.83	2.99	1.86	1.22
CP1245	31.7	22.2	17.6	9.5	7.63	5.33	3.40	2.45	1.56
CP1245H	41.9	25.7	18.4	10.6	7.99	6.39	4.46	2.75	1.74
CP1245S	33.0	20.3	17.5	10.0	7.67	6.00	3.38	2.57	1.77
CP1250	35.0	23.3	18.2	10.3	8.00	6.30	3.73	2.63	1.80
CP1250H	49.5	31.2	23.5	13.3	10.0	8.00	4.40	3.05	2.01
CP1260	50.6	34.0	26.7	14.7	10.8	8.40	4.83	3.44	2.21
CP1265E	50.9	34.5	26.9	14.9	11.3	8.74	4.82	3.50	2.26
CP1270	52.0	35.1	27.5	15.2	11.5	8.97	5.06	3.59	2.33
CP1270A	58.6	38.2	27.8	16.8	12.1	9.20	5.28	3.97	2.55
CP1270L	51.7	34.7	27.2	15.0	11.4	8.80	5.02	3.56	2.30
CP1270SL	51.7	34.7	27.2	15.0	11.4	8.80	5.02	3.56	2.30
CP1272	52.0	35.1	27.5	15.2	11.5	8.97	5.06	3.59	2.33
CP1280H	68.3	42.7	31.7	18.2	13.8	11.0	6.00	4.09	2.78
CP1290L	69.7	44.0	32.7	19.1	14.2	11.3	6.18	4.24	2.82
CP1290	71.7	44.8	33.6	19.6	14.5	11.5	6.30	4.34	3.10
CP12100E	72.2	48.7	39.4	22.7	16.9	13.4	7.60	5.68	3.61
CP12100S	72.2	48.7	39.4	22.7	16.5	13.0	7.36	5.50	3.47
CP12100	76.0	51.3	41.5	23.9	17.8	13.7	8.00	5.74	3.80
CP12100M	76.0	51.3	41.5	23.9	17.8	14.8	8.24	6.26	4.10
CP12120	86.2	58.7	46.7	27.0	20.6	16.1	8.50	6.50	4.20
CP12150	108	73.6	59.2	34.0	25.0	20.2	12.3	8.25	5.41
Cp12170	117	79.0	61.0	36.0	27.4	22.0	13.1	9.10	6.16
CP12170X	117	79.0	61.0	36.0	27.4	22.0	13.1	9.10	6.16
CP12170H	147	102	81.5	44.6	34.2	26.6	14.9	10.3	7.05
CP12170HX	147	102	81.5	44.6	34.2	26.6	14.9	10.3	7.05
CP12200	152	105	84.0	46.0	35.3	27.4	15.3	10.6	7.27
CP12200HD	160	109	82.8	47.6	34.2	28.0	15.7	11.6	7.35
CP12240S	172	112	83.7	51.2	37.2	29.5	18.8	12.9	8.17
CP12240	142	87.0	70.0	46.5	38.5	30.0	19.3	13.4	8.54
CP12240X	185	121	90.0	55.0	40.0	31.7	19.6	13.4	8.54
CP12240H	198	129	96.3	58.8	42.8	33.9	20.6	14.5	8.49
CP12240HX	198	129	96.3	58.8	42.8	33.9	20.6	14.5	8.49
CP12280S	208	135	105	61.7	46.7	36.7	24.0	16.0	10.4
CP2445	-----	-----	15.0	8.78	6.67	5.27	3.56	2.21	1.47
CP2480	-----	-----	-----	-----	14.6	10.1	7.26	4.16	2.75

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance

(Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.65 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP260	49.9	32.5	26.9	16.5	11.8	9.36	5.11	3.69	2.30
CP445	28.8	18.1	15.1	8.86	6.91	5.26	3.41	2.44	1.77
CP445S	27.4	18.5	15.4	9.04	7.05	5.36	3.48	2.49	1.81
CP495	62.0	38.9	32.4	19.1	14.9	11.3	7.33	5.12	3.47
CP4200	147	98.9	69.6	39.8	36.3	24.5	14.0	11.0	6.69
CP612	7.38	5.73	4.58	2.63	1.99	1.58	0.96	0.69	0.50
CP620S	13.6	9.22	7.06	4.07	2.82	2.46	1.59	1.19	0.79
CP628	19.4	13.2	10.1	5.83	4.04	3.51	2.07	1.45	0.95
CP632	21.6	14.4	11.2	6.81	5.09	3.93	2.35	1.77	1.22
CP632S	21.8	14.6	11.3	6.88	5.14	3.97	2.37	1.72	1.22
CP632SA	19.7	13.2	10.3	6.30	4.24	3.69	2.48	1.78	1.17
CP640LE	25.8	17.7	13.7	8.14	6.09	5.06	2.88	2.15	1.48
CP642	29.4	20.6	16.1	9.55	7.09	5.86	3.23	2.35	1.61
CP642L	29.4	20.6	16.1	9.55	7.09	5.86	3.23	2.35	1.61
CP645L	28.2	18.9	15.0	9.10	6.95	5.47	3.14	2.38	1.55
CP645T	27.0	18.9	15.0	8.27	6.58	5.31	3.28	2.30	1.50
CP645	30.0	21.0	16.3	9.18	7.14	5.55	3.31	2.40	1.56
CP645LA	30.0	21.0	16.7	9.18	7.31	4.79	3.31	2.40	1.56
CP645H	31.3	22.6	17.7	10.5	7.95	6.39	3.80	2.53	1.70
CP650S	28.1	20.1	15.8	9.10	6.79	5.64	3.26	2.41	1.65
CP650	31.3	21.9	17.2	9.90	7.38	6.13	3.54	2.57	1.73
CP656	37.5	24.5	19.2	11.1	8.30	6.90	3.97	2.75	1.89
CP665E	48.4	32.8	25.9	14.3	10.8	8.37	4.87	3.41	2.22
CP672	51.6	33.3	27.4	15.6	11.9	9.28	5.00	3.56	2.23
CP677	56.2	36.3	29.9	17.0	13.0	10.1	5.45	3.92	2.45
CP680S	59.1	37.9	31.2	17.9	13.6	10.6	7.29	4.56	3.06
CP6100	66.6	46.7	37.8	22.4	16.8	13.1	7.44	5.20	3.68
CP6100TS	-----	-----	-----	26.5	19.8	14.9	9.07	6.18	3.86
CP6120	82.5	55.7	45.1	25.9	20.0	15.1	9.49	6.42	4.26
CP6140T	102	68.6	55.1	32.4	23.4	19.7	10.7	7.52	5.28
CP6140TS	-----	-----	-----	32.4	23.4	19.7	10.7	7.52	5.28
CP820	16.8	11.5	9.07	5.47	3.77	3.00	1.69	1.18	0.74
CP832	21.9	14.7	11.4	6.97	5.06	3.93	2.35	1.77	1.22
CP832S	21.9	14.7	11.4	6.97	5.06	3.93	2.35	1.77	1.22
CP1208	5.76	3.83	2.77	1.69	1.21	0.968	0.565	0.407	0.276
CP1212	8.44	5.34	4.41	2.53	1.97	1.56	0.85	0.65	0.47
CP1212S	9.07	5.81	4.73	2.69	2.00	1.60	0.87	0.65	0.46
CP1220C	11.2	7.69	5.97	3.20	2.44	1.97	1.17	0.82	0.58
CP1220M	11.3	7.76	6.03	3.23	2.46	1.99	1.15	0.83	0.59
CP1223C	12.5	8.65	6.71	3.80	2.98	2.46	1.46	1.03	0.73
CP1222S	15.5	10.1	7.82	4.18	3.25	2.59	1.55	1.11	0.76
CP1219	10.6	7.26	5.77	3.35	2.71	2.26	1.23	0.88	0.65
CP1223	16.7	10.5	8.14	4.52	3.38	2.46	1.45	1.04	0.74
CP1223H	18.1	13.0	9.93	5.54	3.98	3.19	2.09	1.39	0.88

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance

(Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.65 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP1223E	13.9	9.51	7.14	4.75	3.52	2.90	1.70	1.30	0.831
CP1225	21.0	14.1	11.0	5.86	4.08	3.35	1.95	1.42	0.94
CP1225S	21.0	14.1	11.0	5.86	4.08	3.35	1.95	1.42	0.94
CP1226S	16.7	12.0	9.14	5.02	3.84	3.10	1.82	1.27	0.88
CP1226	21.7	14.4	11.6	6.09	4.62	3.62	2.04	1.50	0.98
CP1229	25.8	16.8	13.5	8.17	5.88	4.51	2.55	1.73	1.16
CP1232	21.4	14.3	11.1	6.74	5.04	3.89	2.18	1.72	1.19
CP1232S	21.4	14.3	11.1	6.74	5.04	3.89	2.18	1.72	1.19
CP1240L	25.1	15.7	12.6	7.92	5.72	4.63	2.90	1.82	1.20
CP1240SL	25.1	15.7	12.6	7.92	5.72	4.63	2.90	1.82	1.20
CP1245	29.7	20.9	16.6	9.03	7.28	5.11	3.29	2.39	1.54
CP1245H	39.3	24.2	17.4	10.1	7.62	6.12	4.33	2.68	1.71
CP1245S	31.0	19.2	16.6	9.50	7.31	5.75	3.28	2.51	1.74
CP1250	32.8	22.0	17.3	9.70	7.60	6.10	3.62	2.56	1.77
CP1250H	47.1	30.6	22.7	13.0	9.75	7.80	4.30	2.99	1.98
CP1260	48.1	32.3	25.6	14.1	10.3	8.05	4.70	3.36	2.16
CP1265E	48.4	32.8	25.9	14.3	10.8	8.37	4.62	3.41	2.22
CP1270	49.4	33.3	26.5	14.6	11.0	8.59	4.94	3.50	2.29
CP1270A	55.6	37.6	27.2	16.6	11.7	8.98	5.13	3.84	2.47
CP1270L	49.2	33.0	26.1	14.4	10.8	8.40	4.89	3.47	2.26
CP1270SL	49.2	33.0	26.1	14.4	10.8	8.40	4.89	3.47	2.26
CP1272	49.4	33.3	26.5	14.6	11.0	8.59	4.94	3.50	2.29
CP1280H	64.8	42.2	31.0	17.8	13.5	10.7	5.93	4.05	2.76
CP1290L	66.3	43.5	32.0	18.7	13.9	11.0	6.11	4.20	2.81
CP1290	68.3	44.3	33.1	19.1	14.2	11.2	6.23	4.29	3.04
CP12100E	68.8	46.3	37.5	21.5	16.1	12.8	7.28	5.45	3.50
CP12100S	68.8	46.3	37.5	21.5	15.6	12.4	7.04	5.26	3.40
CP12100	72.2	48.7	39.4	22.7	16.9	13.0	7.68	5.50	3.60
CP12100M	72.2	48.7	39.4	22.7	16.9	14.0	7.91	6.00	3.89
CP12120	84.1	57.7	46.0	26.6	20.4	16.0	8.42	6.44	4.17
CP12150	101	69.3	56.0	32.3	23.8	19.4	11.9	8.05	5.31
Cp12170	113	77.4	59.8	35.5	27.1	21.8	13.0	9.01	6.10
CP12170X	113	77.4	59.8	35.5	27.1	21.8	13.0	9.01	6.10
CP12170H	143	100	80.1	43.9	33.8	26.3	14.7	10.2	6.96
CP12170HX	143	100	80.1	43.9	33.8	26.3	14.7	10.2	6.96
CP12200	147	103	82.6	45.3	34.9	27.1	15.2	10.5	7.18
CP12200HD	153	103	78.3	45.2	32.7	27.3	15.4	11.4	7.30
CP12240S	161	106	79.2	48.6	35.5	28.2	18.2	12.6	8.03
CP12240	134	82.8	66.9	44.6	36.7	28.8	18.6	12.9	8.36
CP12240X	173	114	85.1	52.3	38.2	30.3	19.0	13.1	8.39
CP12240H	185	122	91.1	55.9	40.8	32.5	20.0	14.2	8.34
CP12240HX	185	122	91.1	55.9	40.8	32.5	20.0	14.2	8.34
CP12280S	195	127	99.3	58.6	44.5	35.1	23.3	15.6	10.2
CP2445	-----	-----	14.2	8.34	6.36	5.04	3.45	2.16	1.45
CP2480	-----	-----	-----	-----	13.9	9.71	7.04	4.06	2.70

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance (Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.70 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP260	47.1	30.3	25.8	15.9	11.3	9.02	4.95	3.59	2.26
CP445	26.9	17.0	14.2	8.38	6.57	5.02	3.29	2.38	1.74
CP445S	25.6	17.3	14.5	8.56	6.70	5.12	3.36	2.42	1.77
CP495	57.9	36.5	30.5	18.0	14.1	10.8	7.08	4.98	3.41
CP4200	136	92.8	64.8	38.9	34.4	22.6	13.5	10.6	6.66
CP612	6.93	5.40	4.33	2.50	1.87	1.47	0.90	0.65	0.48
CP620S	12.7	8.65	6.65	3.85	2.68	2.34	1.54	1.16	0.77
CP628	18.1	12.4	9.51	5.51	3.84	3.35	2.00	1.41	0.93
CP632	20.2	13.6	10.6	6.44	4.83	3.75	2.27	1.72	1.19
CP632S	20.4	13.7	10.7	6.51	4.88	3.78	2.29	1.68	1.19
CP632SA	18.4	12.4	9.67	5.96	4.50	3.52	2.40	1.73	1.19
CP640LE	25.1	17.4	13.6	8.11	6.08	5.06	2.85	2.11	1.45
CP642	28.6	20.4	16.0	9.51	7.08	5.86	3.20	2.31	1.59
CP642L	28.6	20.4	16.0	9.51	7.08	5.86	3.20	2.31	1.59
CP645L	26.2	18.3	14.1	8.58	6.57	5.21	3.05	2.32	1.52
CP645T	25.2	17.8	14.2	7.82	6.25	5.11	3.17	2.24	1.47
CP645	28.0	19.7	15.5	8.69	6.78	5.30	3.20	2.34	1.53
CP645LA	28.0	19.7	15.7	8.69	6.95	4.57	3.20	2.34	1.53
CP645H	29.2	21.2	16.6	9.89	7.55	6.09	3.67	2.46	1.67
CP650S	26.3	18.9	14.9	8.61	6.45	5.38	3.15	2.34	1.62
CP650	29.2	20.5	16.2	9.36	7.01	5.85	3.42	2.50	1.70
CP656	35.0	23.0	18.1	10.5	7.90	6.50	3.83	2.67	1.85
CP665E	45.9	31.1	24.8	13.7	10.4	8.02	4.74	3.32	2.19
CP672	50.0	32.5	26.7	15.3	11.7	9.12	4.95	3.50	2.20
CP677	54.5	35.4	29.1	16.7	12.8	9.94	5.40	3.85	2.42
CP680S	55.2	35.6	29.4	17.0	12.9	10.1	7.04	4.43	3.00
CP6100	62.2	43.8	35.6	21.2	16.0	12.5	7.22	5.05	3.61
CP6100TS	-----	-----	-----	25.1	18.9	14.2	8.77	6.01	3.78
CP6120	77.1	52.3	42.5	24.5	19.0	14.4	9.17	6.22	4.10
CP6140T	95.7	64.4	51.9	30.7	22.2	18.8	10.3	7.32	5.18
CP6140TS	-----	-----	-----	30.7	22.2	18.8	10.3	7.32	5.18
CP820	16.1	11.2	8.84	5.33	3.71	2.90	1.67	1.16	0.73
CP832	20.4	13.8	10.7	6.59	4.80	3.75	2.27	1.72	1.19
CP832S	20.4	13.8	10.7	6.59	4.80	3.75	2.27	1.72	1.19
CP1208	5.48	3.65	2.66	1.64	1.18	0.945	0.55	0.398	0.271
CP1212	7.88	5.01	4.16	2.40	1.87	1.49	0.81	0.63	0.46
CP1212S	8.47	5.45	4.46	2.55	1.90	1.52	0.82	0.64	0.45
CP1220C	10.6	7.34	5.71	3.08	2.35	1.90	1.14	0.81	0.57
CP1220M	10.7	7.41	5.77	3.11	2.38	1.92	1.12	0.82	0.57
CP1223C	11.9	8.26	6.43	3.66	2.88	2.38	1.42	1.01	0.71
CP1222S	14.5	9.45	7.37	3.95	3.09	2.47	1.50	1.08	0.75
CP1219	10.1	7.09	5.74	3.30	2.69	2.25	1.22	0.87	0.65
CP1223	16.0	10.0	7.86	4.28	3.25	2.28	1.35	0.98	0.73
CP1223H	16.9	12.2	9.36	5.24	3.78	3.05	2.02	1.35	0.86

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance (Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.70 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP1223E	13.5	9.41	7.12	4.70	3.47	2.85	1.68	1.29	0.828
CP1225	19.6	13.3	10.4	5.54	3.90	3.20	1.90	1.38	0.92
CP1225S	19.6	13.3	10.4	5.54	3.90	3.20	1.90	1.38	0.92
CP1226S	15.8	11.4	8.73	4.83	3.70	3.00	1.76	1.23	0.87
CP1226	20.3	13.6	11.0	5.78	4.31	3.50	1.98	1.43	0.96
CP1229	24.4	16.0	12.9	7.86	5.67	4.36	2.48	1.68	1.13
CP1232	20.0	13.4	10.4	6.38	4.79	3.71	2.10	1.67	1.16
CP1232S	20.0	13.4	10.4	6.38	4.79	3.71	2.10	1.67	1.16
CP1240L	23.5	14.7	11.9	7.49	5.44	4.42	2.80	1.77	1.18
CP1240SL	23.5	14.7	11.9	7.49	5.44	4.42	2.80	1.77	1.18
CP1245	27.7	19.6	15.7	8.54	6.92	4.87	3.18	2.33	1.51
CP1245H	36.7	22.7	16.4	9.56	7.24	5.84	4.18	2.61	1.68
CP1245S	28.9	18.0	15.6	8.99	6.95	8.48	3.17	2.44	1.7
CP1250	30.7	20.6	16.4	9.10	7.30	5.80	3.50	2.49	1.74
CP1250H	44.8	30.0	22.0	12.6	9.50	7.60	4.21	2.93	1.95
CP1260	45.6	30.6	24.6	13.5	9.79	7.65	4.59	3.28	2.11
CP1265E	45.9	31.1	24.8	13.7	10.4	8.02	4.47	3.32	2.19
CP1270	46.9	31.6	25.4	14.0	10.5	8.23	4.80	3.40	2.25
CP1270A	52.6	37.0	26.5	16.3	11.6	8.77	4.98	3.72	2.39
CP1270L	46.6	31.1	25.0	13.9	10.3	8.00	4.77	3.38	2.22
CP1270SL	46.6	31.1	25.0	13.9	10.3	8.00	4.77	3.38	2.22
CP1272	46.9	31.6	25.4	14.0	10.5	8.23	4.80	3.40	2.25
CP1280H	61.4	40.8	30.1	17.4	13.0	10.4	5.80	3.97	2.73
CP1290L	62.8	42.1	31.1	18.0	13.4	10.6	5.96	4.12	2.79
CP1290	64.8	42.9	31.1	18.5	13.7	11.0	6.08	4.20	2.98
CP12100E	65.3	43.9	35.6	20.3	15.3	12.0	6.98	5.22	3.33
CP12100S	65.3	43.9	35.6	20.3	14.7	11.6	6.75	5.02	3.34
CP12100	68.4	46.2	37.3	21.5	15.9	12.2	7.36	5.28	3.41
CP12100M	68.4	46.2	37.3	21.5	15.9	13.2	7.58	5.76	3.68
CP12120	81.9	56.6	45.3	26.2	20.1	15.8	8.33	6.37	4.14
CP12150	94.4	65.0	52.7	30.6	22.6	18.5	11.5	7.83	5.21
Cp12170	110	75.8	58.5	35.0	26.7	21.5	12.8	8.92	6.04
CP12170X	110	75.8	58.5	35.0	26.7	21.5	12.8	8.92	6.04
CP12170H	138	98.2	78.7	43.3	33.4	26.0	14.5	10.1	6.88
CP12170HX	138	98.2	78.7	43.3	33.4	26.0	14.5	10.1	6.88
CP12200	142	101	81.2	44.6	34.4	26.9	15.0	10.4	7.09
CP12200HD	143	96.3	73.8	42.7	31.1	26.3	14.9	11.1	7.20
CP12240S	150	99.3	74.6	46.0	33.7	26.9	17.6	12.3	7.87
CP12240	126	78.5	63.8	42.8	34.9	27.7	17.9	12.4	8.19
CP12240X	161	107	80.2	49.4	36.3	28.9	18.3	12.5	8.22
CP12240H	173	114	85.8	52.9	38.8	31.0	19.3	13.8	8.18
CP12240HX	173	114	85.8	52.9	38.8	31.0	19.3	13.8	8.18
CP12280S	183	119	93.6	55.4	42.3	33.5	22.5	15.2	10.0
CP2445	-----	-----	13.4	7.89	6.04	4.81	3.33	2.10	1.42
CP2480	-----	-----	-----	-----	13.2	9.27	6.80	3.95	2.65

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance (Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.75 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP260	44.7	27.7	24.6	15.2	10.9	8.68	4.79	3.50	2.22
CP445	25.0	15.9	13.3	7.90	6.21	4.76	3.16	2.30	1.7
CP445S	23.8	16.2	13.6	8.06	6.34	4.86	3.23	2.35	1.74
CP495	53.9	34.1	28.6	17.0	13.4	10.3	6.81	4.83	3.33
CP4200	128	86.7	60.8	36.9	32.6	22.2	13.1	10.1	6.64
CP612	6.44	5.02	4.02	2.34	1.71	1.37	0.83	0.61	0.48
CP620S	11.8	8.08	6.24	3.63	2.54	2.23	1.48	1.13	0.75
CP628	16.8	11.6	8.92	5.19	3.63	3.18	1.92	1.37	0.91
CP632	18.7	12.7	9.89	6.07	4.57	3.56	2.18	1.67	1.17
CP632S	18.9	12.8	9.99	6.13	4.62	3.59	2.20	1.66	1.16
CP632SA	17.1	11.6	9.07	5.62	4.26	3.34	2.31	1.68	1.17
CP640LE	24.4	17.2	13.5	8.01	6.01	5.00	2.82	2.09	1.42
CP642	27.7	20.2	15.8	9.39	7.00	5.81	3.17	2.29	1.56
CP642L	27.7	20.2	15.8	9.39	7.00	5.81	3.17	2.29	1.56
CP645L	24.2	17.6	13.3	8.08	6.19	4.95	2.93	2.25	1.50
CP645T	23.5	16.6	13.3	7.37	5.92	4.91	3.04	2.17	1.44
CP645	26.0	18.4	14.8	8.18	6.40	5.05	3.08	2.27	1.50
CP645LA	26.0	18.4	14.8	8.18	6.57	4.34	3.08	2.27	1.50
CP645H	27.2	19.8	15.6	9.31	7.14	5.79	3.52	2.39	1.63
CP650S	24.4	17.6	14.0	8.61	6.10	5.11	3.03	2.27	1.59
CP650	27.2	19.2	15.2	8.82	6.63	5.56	3.29	2.42	1.66
CP656	32.6	21.5	17.0	9.90	7.40	6.20	3.68	2.59	1.81
CP665E	43.5	29.3	23.8	13.1	9.97	7.78	4.59	3.21	2.14
CP672	46.5	31.4	26.0	14.8	11.4	8.86	4.90	3.38	2.17
CP677	50.7	34.2	28.3	16.1	12.4	9.66	5.34	3.72	2.39
CP680S	51.4	33.2	27.6	16.0	12.2	9.61	6.77	4.22	2.92
CP6100	57.8	40.9	33.4	20.0	15.1	11.9	7.01	4.90	3.53
CP6100TS	-----	-----	-----	23.6	17.8	13.5	8.42	5.83	3.70
CP6120	71.7	48.8	39.8	23.1	18.0	13.8	8.81	6.00	3.96
CP6140T	89.0	60.1	48.7	28.9	21.0	17.8	9.91	7.10	5.06
CP6140TS	-----	-----	-----	28.9	21.0	17.8	9.91	7.10	5.06
CP820	15.3	10.9	8.61	5.10	3.65	2.80	1.65	1.13	0.72
CP832	19.0	12.9	10.0	6.21	4.54	3.56	2.18	1.67	1.17
CP832S	19.0	12.9	10.0	6.21	4.54	3.56	2.18	1.67	1.17
CP1208	5.19	3.48	2.56	1.58	1.14	0.923	0.535	0.389	0.267
CP1212	7.33	4.68	3.90	2.26	1.77	1.42	0.76	0.61	0.45
CP1212S	7.88	5.09	4.18	2.40	1.80	1.45	0.78	0.62	0.44
CP1220C	10.0	6.97	5.45	2.96	2.27	1.84	1.09	0.77	0.55
CP1220M	10.1	7.04	5.51	2.98	2.29	1.86	1.08	0.78	0.56
CP1223C	11.2	7.84	6.13	3.51	2.77	2.30	1.37	0.97	0.69
CP1222S	13.4	8.83	6.91	3.72	2.92	2.34	1.44	1.05	0.73
CP1219	9.60	7.06	5.67	3.25	2.68	2.24	1.21	0.86	0.65
CP1223	15.3	9.46	7.56	4.02	3.11	2.09	1.14	0.93	0.71
CP1223H	15.8	11.4	8.78	4.94	3.57	2.89	1.94	1.31	0.84

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance (Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.75 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP1223E	13.1	9.12	7.08	4.63	3.41	2.80	1.66	1.28	0.825
CP1225	18.2	12.4	9.75	5.22	3.70	3.04	1.83	1.34	0.90
CP1225S	18.2	12.4	9.75	5.22	3.70	3.04	1.83	1.34	0.90
CP1226S	15.0	10.8	8.36	4.63	3.55	2.88	1.71	1.20	0.85
CP1226	19.0	12.7	10.3	5.42	3.98	3.32	1.92	1.38	0.93
CP1229	23.1	15.2	12.3	7.52	5.44	4.20	2.39	1.63	1.10
CP1232	18.6	12.5	9.79	6.01	4.53	3.53	2.02	1.62	1.14
CP1232S	18.6	12.5	9.79	6.01	4.53	3.53	2.02	1.62	1.14
CP1240L	21.8	13.8	11.2	7.05	5.14	4.20	2.69	1.71	1.16
CP1240SL	21.8	13.8	11.2	7.05	5.14	4.20	2.69	1.71	1.16
CP1245	25.8	18.3	14.7	8.04	6.54	4.63	3.06	2.26	1.47
CP1245H	34.1	21.2	15.3	9.01	6.85	5.54	4.02	2.53	1.64
CP1245S	26.9	16.8	14.6	8.47	6.57	5.21	3.04	2.37	1.67
CP1250	28.5	19.3	15.4	8.60	6.90	5.50	3.36	2.42	1.70
CP1250H	42.3	29.5	21.3	12.3	9.25	7.40	4.12	2.86	1.91
CP1260	43.1	28.8	23.6	13.0	9.34	7.30	4.45	3.18	2.06
CP1265E	43.5	29.3	23.8	13.1	9.97	7.78	4.31	3.21	2.14
CP1270	44.5	29.8	24.3	13.4	10.1	7.99	4.65	3.30	2.21
CP1270A	49.4	36.5	25.9	16.0	11.3	8.55	4.78	3.53	2.30
CP1270L	44.1	29.3	24.1	13.3	9.90	7.60	4.62	3.28	2.18
CP1270SL	44.1	29.3	24.1	13.3	9.90	7.60	4.62	3.28	2.18
CP1272	44.5	29.8	24.3	13.4	10.1	7.99	4.65	3.33	2.21
CP1280H	58.0	39.3	29.2	16.5	12.3	9.90	5.66	3.85	2.70
CP1290L	59.4	40.3	30.2	17.1	12.7	10.1	5.82	4.00	2.74
CP1290	61.4	41.1	30.2	17.6	12.9	10.7	5.94	4.08	2.92
CP12100E	61.9	41.5	33.6	19.1	14.6	11.2	6.68	5.00	3.19
CP12100S	61.9	41.5	33.6	19.1	13.8	10.9	6.47	4.82	3.27
CP12100	64.6	43.7	35.3	20.0	14.9	11.4	7.08	5.08	3.34
CP12100M	64.6	43.7	35.3	20.0	14.9	12.3	7.29	5.54	3.61
CP12120	79.8	55.6	44.6	25.8	19.9	15.7	8.25	6.31	4.11
CP12150	87.8	60.7	49.4	28.8	21.4	17.5	11.0	7.60	5.10
CP12170	106	74.1	57.3	34.5	26.4	21.3	12.7	8.83	5.98
CP12170X	106	74.1	57.3	34.5	26.4	21.3	12.7	8.83	5.98
CP12170H	133	96.3	77.3	42.7	33.0	25.8	14.4	10.0	6.79
CP12170HX	133	96.3	77.3	42.7	33.0	25.8	14.4	10.0	6.79
CP12200	137	99.3	79.7	44.0	34.0	26.6	14.8	10.3	7.00
CP12200HD	134	89.7	69.2	40.3	29.3	25.4	14.5	10.8	7.10
CP12240S	140	92.7	70.0	43.3	31.9	25.6	16.9	11.9	7.70
CP12240	118	74.3	60.6	40.9	33.1	26.5	17.1	11.9	8.01
CP12240X	151	99.7	75.2	46.6	34.3	27.5	17.6	12.0	8.03
CP12240H	161	107	80.5	49.8	36.7	29.4	18.5	13.4	8.00
CP12240HX	161	107	80.5	49.8	36.7	29.4	18.5	13.4	8.00
CP12280S	170	111	87.8	52.2	40.0	31.8	21.6	14.4	9.90
CP2445	-----	-----	12.6	7.43	5.72	4.57	3.20	2.04	1.39
CP2480	-----	-----	-----	-----	12.5	8.80	6.53	3.83	2.59

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance

(Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.80 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP260	41.7	24.7	23.3	14.5	10.4	8.31	4.58	3.34	2.13
CP445	23.2	14.7	12.4	7.41	5.85	4.51	3.03	2.23	1.66
CP445S	22.0	15.0	12.7	7.56	5.97	4.60	3.09	2.27	1.69
CP495	49.9	31.7	26.7	15.9	12.6	9.70	6.51	4.67	3.25
CP4200	119	80.6	56.8	34.5	30.7	20.7	12.7	9.9	6.62
CP612	5.84	4.56	3.61	2.13	1.52	1.21	0.73	0.54	0.48
CP620S	10.9	7.51	5.82	3.40	2.39	2.11	1.42	1.09	0.74
CP628	15.6	10.8	8.33	4.87	3.42	3.01	1.84	1.32	0.89
CP632	17.4	11.8	9.24	5.69	4.31	3.37	2.08	1.61	1.14
CP632S	17.5	11.9	9.33	5.75	4.35	3.40	2.11	1.60	1.13
CP632SA	15.8	10.8	8.47	5.27	4.01	3.16	2.21	1.62	1.14
CP640LE	22.7	15.9	13.3	7.84	5.87	4.89	2.76	2.04	1.40
CP642	25.8	18.7	15.6	9.21	6.85	5.67	3.09	2.23	1.54
CP642L	25.8	18.7	15.6	9.21	6.85	5.67	3.09	2.23	1.54
CP645L	23.2	17.0	12.4	7.50	5.88	4.68	2.80	2.17	1.49
CP645T	21.7	15.4	12.4	6.91	5.57	4.70	2.91	2.10	1.40
CP645	24.1	17.1	13.8	7.68	6.00	4.78	2.94	2.19	1.46
CP645LA	24.1	17.1	13.8	7.68	6.19	4.11	2.94	2.19	1.46
CP645H	25.2	18.4	14.6	8.73	6.73	5.48	3.37	2.31	1.59
CP650S	22.6	16.4	13.0	7.61	5.75	4.84	2.90	2.20	1.55
CP650	25.2	17.8	14.2	8.27	6.25	5.26	3.15	2.34	1.62
CP656	30.2	20.0	15.9	9.30	7.00	5.90	3.53	2.51	1.77
CP665E	40.8	27.6	22.8	12.7	9.59	7.43	4.44	3.11	2.08
CP672	41.0	30.3	24.5	14.0	11.0	8.55	4.83	3.25	2.12
CP677	44.7	33.0	26.7	15.3	12.0	9.32	5.26	3.58	2.33
CP680S	47.6	30.9	25.7	15.0	11.5	9.09	6.47	4.02	2.81
CP6100	53.5	38.1	31.2	18.8	14.2	11.3	6.78	4.74	3.44
CP6100TS	-----	-----	-----	22.2	16.8	12.7	8.06	5.64	3.61
CP6120	66.4	45.4	37.2	21.9	17.0	13.4	8.43	5.76	3.82
CP6140T	82.4	55.9	45.5	27.1	19.8	16.9	9.48	6.86	4.94
CP6140TS	-----	-----	-----	27.1	19.8	16.9	9.48	6.86	4.94
CP820	14.5	10.5	8.38	4.90	3.58	2.70	1.62	1.10	0.70
CP832	17.6	12.0	9.37	5.82	4.28	3.37	2.08	1.61	1.14
CP832S	17.6	12.0	9.37	5.82	4.28	3.37	2.08	1.61	1.14
CP1208	4.9	3.31	2.45	1.53	1.1	0.9	0.52	0.38	0.262
CP1212	6.79	4.35	3.64	2.12	1.67	1.34	0.71	0.60	0.44
CP1212S	7.29	4.73	3.90	2.25	1.70	1.37	0.73	0.60	0.43
CP1220C	9.36	6.58	5.16	2.80	2.15	1.75	1.06	0.76	0.53
CP1220M	9.45	6.64	5.21	2.83	2.18	1.77	1.04	0.76	0.54
CP1223C	10.5	7.40	5.81	3.33	2.63	2.19	1.32	0.95	0.66
CP1222S	12.5	8.21	6.46	3.49	2.75	2.22	1.38	1.01	0.71
CP1219	9.20	6.95	5.47	3.16	2.66	2.23	1.19	0.85	0.64
CP1223	14.4	8.94	7.24	3.74	3.00	1.86	1.02	0.84	0.62
CP1223H	14.6	10.6	8.20	4.63	3.37	2.74	1.86	1.26	0.82

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Performance Data

Constant Power Discharge performance

(Watts)

Constant Power Discharge (Watts) at 25 ℃ to 1.80 volts per cell									
Battery Type	5min	10min	15min	30min	45min	1h	2h	3h	5h
CP1223E	12.7	8.83	7.00	4.57	3.32	2.70	1.63	1.27	0.820
CP1225	16.9	11.5	9.11	4.90	3.50	2.87	1.76	1.30	0.88
CP1225S	16.9	11.5	9.11	4.90	3.50	2.87	1.76	1.30	0.88
CP1226S	14.1	10.2	7.90	4.39	3.38	2.75	1.63	1.14	0.83
CP1226	17.5	11.8	9.65	5.08	3.68	2.98	1.86	1.34	0.90
CP1229	21.8	14.3	11.7	7.16	5.18	4.00	2.28	1.56	1.07
CP1232	17.2	11.7	9.15	5.64	4.26	3.33	1.93	1.57	1.11
CP1232S	17.2	11.7	9.15	5.64	4.26	3.33	1.93	1.57	1.11
CP1240L	20.2	12.8	10.4	6.62	4.85	3.97	2.58	1.66	1.13
CP1240SL	20.2	12.8	10.4	6.62	4.85	3.97	2.58	1.66	1.13
CP1245	23.9	17.1	13.7	7.54	6.16	4.38	2.93	2.18	1.44
CP1245H	31.6	19.7	14.3	8.45	6.45	5.24	3.85	2.44	1.60
CP1245S	24.9	15.6	13.7	7.94	6.19	4.93	2.91	2.29	1.63
CP1250	26.4	17.9	14.3	8.10	6.50	5.20	3.22	2.33	1.66
CP1250H	39.8	28.8	20.5	11.9	90.0	7.20	4.02	2.80	1.88
CP1260	40.5	27.2	22.5	12.5	9.10	7.11	4.29	3.05	1.93
CP1265E	40.8	27.6	22.8	12.7	9.59	7.43	4.44	3.11	2.08
CP1270	41.6	28.0	23.3	12.9	9.75	7.62	4.50	3.19	2.15
CP1270A	45.4	34.8	25.2	15.7	11.0	8.27	4.54	3.29	2.19
CP1270L	41.4	27.7	23.0	12.8	9.60	7.31	4.47	3.17	2.12
CP1270SL	41.4	27.7	23.0	12.8	9.60	7.31	4.47	3.17	2.12
CP1272	41.6	28.0	23.3	12.9	9.75	7.62	4.50	3.19	2.15
CP1280H	52.6	37.5	27.4	15.4	11.6	9.30	5.51	3.70	2.60
CP1290L	56.0	38.5	28.4	16.0	12.0	9.60	5.65	3.85	2.70
CP1290	58.0	39.2	28.4	16.6	12.2	9.80	5.77	3.92	2.85
CP12100E	58.5	38.9	31.5	18.2	13.5	10.8	6.46	4.78	3.07
CP12100S	58.5	38.9	31.5	18.2	13.1	10.4	6.25	4.61	3.19
CP12100	60.8	41.0	33.2	18.8	13.8	10.6	6.80	4.87	3.22
CP12100M	60.8	41.0	33.2	18.8	13.8	11.4	7.00	5.31	3.48
CP12120	77.6	54.6	43.9	25.4	19.6	15.5	8.16	6.24	4.08
CP12150	81.3	56.5	46.2	27.0	20.2	16.6	10.6	7.34	4.97
CP12170	102	72.5	56.0	34.0	26.0	21.0	12.5	8.74	5.92
CP12170X	102	72.5	56.0	34.0	26.0	21.0	12.5	8.74	5.92
CP12170H	128	94.9	76.0	42.0	32.6	25.5	14.2	9.90	6.78
CP12170HX	128	94.9	76.0	42.0	32.6	25.5	14.2	9.90	6.78
CP12200	132	97.8	78.3	43.3	33.6	26.3	14.6	10.2	6.99
CP12200HD	125	83.4	64.7	37.8	27.6	24.5	14.0	10.5	7.00
CP12240S	130	86.2	65.3	40.6	30.0	24.2	16.2	11.5	7.51
CP12240	110	70.0	57.5	39.0	31.3	25.3	16.4	11.4	7.83
CP12240X	139	92.7	70.3	43.7	32.3	26.0	16.9	11.4	7.83
CP12240H	149	99.2	75.2	46.7	34.6	27.8	17.7	12.9	7.81
CP12240HX	149	99.2	75.2	46.7	34.6	27.8	17.7	12.9	7.81
CP12280S	157	104	82.0	49.0	37.7	30.1	20.7	13.8	9.80
CP2445	-----	-----	11.7	6.97	5.38	4.32	3.07	1.97	1.36
CP2480	-----	-----	-----	-----	11.8	8.33	6.25	3.70	2.53

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the mimimum values.

Battery Charging

Correct battery charging ensures the maximum possible working life for the battery. There are four major methods of charging:

Constant Voltage Charging.
Constant Current Charging.
Two Stage Constant Voltage Charging.
Taper Current Charging.

Constant Voltage Charging

This is the recommended method of charging for VRLA batteries. It is necessary to closely control the actual voltage to ensure that it is within the limits advised.

Float Service: 2.27-2.30 Vpc at 25°C .
Cycle Service: 2.40-2.45 Vpc at 25°C .

SZCPT suggests that the initial current be set within 0.4 C_{20} Amps. The attached indicates the time taken to fully recharge the battery. It should be noted that the graph illustrated is for a fully discharged battery, i.e; a battery that has reached the minimum cell voltage recommended for its discharge time. As shown on the graph,it is necessary to charge a greater amount of energy into the battery than was taken out of the battery on discharge. The actual current indicating that the battery is fully charged is approx 5mA/Ah under charging voltage is 2.30 Vpc.

Constant Current Charging

This method of charging is generally not recommended for VRLA batteries. It is necessary to understand that if the batteries are not removed from the charger after reaching a state of full charge, considerable damage will occur to the batteries due to overcharging.

Two Stage Constant Voltage Charging

This method should not be used when the battery and load are connected in parallel. If this method is to be used, it is suggested that the VISION technical department should be contacted.

Taper Current Charging

This method is not recommended for VRLA batteries. However, if this method is to be used, it is suggested that the VISION technical department should be contacted.

Effect of Temperature on Charging Voltage

As temperature rises, electrochemical activity in a battery increases. Similarly, as temperature falls, electrochemical activity decreases. Therefore, conversely, as temperature rises, charging voltage should be reduced to prevent overcharge, will increased as temperature falls to avoid undercharge. In general, to assure optimum service life, use of a temperature compensated charger is recommended. The recommended compensation factor for CP batteries is -3mV/°C/Cell (standby use)and-5mV/°C/Cell (cyclic use). The standard center point for temperature compensation is 25°C. Figure 1 shows the relationship between temperatures and charging voltages in both cyclic and standby applications.

Relationship between
charging voltage and temperature

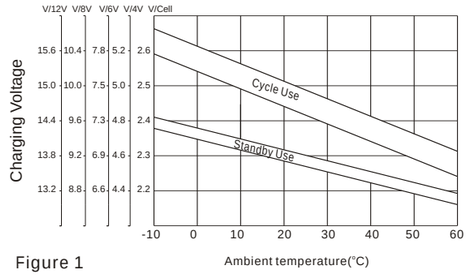


Figure 1

Effect of Voltage on Battery Gassing

Although the batteries are of the recombination type and the amount of gassing at normal operating voltages and temperature are negligible, if the charging voltage is increased, gassing will occur despite the recombination design of the product. Gassing does not normally occur while the battery is operating under float conditions and normal constant voltage recharge of 2.27-2.30 Vpc at 25°C. Very little gassing occurs when the battery is recharged under normal cycling recharge procedures. However, it can be seen on the accompanying graph the higher voltages that this especially under conditions of constant current charging will substantially increase the volume of gas.

Discharge characteristic

The discharge capacity of a lead acid battery varies and is dependant on the discharge current. VISION CP VRLA batteries use a rate at the 20 hour rate. i.e.the capacity of the battery at 20 hours discharges to an end voltage of 1.75 Vpc at a temperature of 25°C.

General Comments

The discharge curves (Figure 2) show the minimum design parameters for each fully charged VISION battery after installation. Full capacity is reached after some initial service.

Float Service.
One month after installation and recharging.
Cycle Service.
Within three to five cycles after initial charge and service entry.

Technical Terms

1. Battery capacity for small VRLA batteries by accepted convention worldwide is described in "AMPERE HOUR" at the 20-hour rate C_{20} when discharged at 25°C. i.e. a CP1245 is 4.5 Ah at C_{20} that means the battery will deliver 0.225 amps current for 20 hours to a cut off voltage of 1.75 volts per cell (10.5 volts per battery).

2. Battery cut-off voltage is the volts per cell to which a battery may be discharged safely to maximize battery life. This data is specified according to the actual discharge load and run time. As a rule of thumb, high amp loads and short run times will tolerate a lower cut off voltage (eg. 3C at 1.3V/C), whereas a low amps long run time discharge will require a higher cut-off voltage (eg. 0.05C at 1.75V/C).

Battery Selection

The battery discharge graph(Figure 2) may be utilized in battery selection. However, it is suggested that a review be made of the data sheet for each battery type or the chart showing the actual capacity of each battery type at various discharge times.

Effect of Temperature on Battery Capacity

The nominal battery capacity is based on the temperature of 25°C. Above this temperature, the capacity increases marginally but it must be noted that the working battery should be kept within the temperature design limitations of the product.

Below 25°C, the capacity decreases. This decrease in capacity becomes more prominent at temperatures below 0°C and in heavy discharge rates(Chart 1). illustrates the situation and the decrease in capacity with the decrease in operating temperature. Temperature must be taken into capacity design calculations in applications where the operating temperature of the system is below 20°C .

Characteristic Discharge Curves

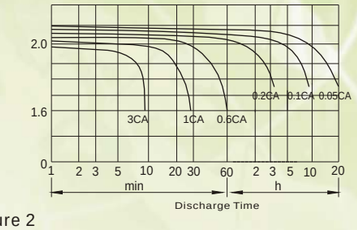


Figure 2

Self-discharge characteristic

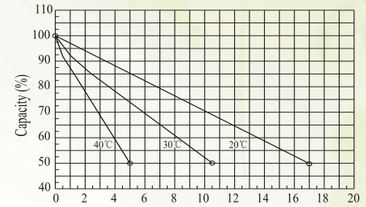


Figure 3

Relationship of OCV and state of charge (25°C)

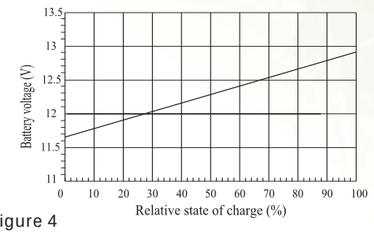


Figure 4

Discharge time	Battery temperature											
	-15°C	-10°C	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C
10min	0.46	0.52	0.58	0.65	0.71	0.78	0.85	0.93	1	1.07	1.15	1.22
1 hour	0.59	0.64	0.69	0.74	0.80	0.85	0.90	0.95	1	1.05	1.09	1.14
20hour	0.71	0.75	0.79	0.82	0.86	0.90	0.93	0.97	1	1.03	1.06	1.08

Chart 1

Charge characteristics

The cells in the VISION CP product range must be charged at a constant voltage at an ambient temperature of 25°C, the batteries should be charged at 2.27-2.30 volts per cell. It is not necessary to limit the current, as this will be governed by the maximum output available from the charger until the voltage limit is reached. The charging voltage of 2.27-2.30 volts should also be used for float charging. To achieve nominal performance characteristics, it is recommended to adjust this value to suit the ambient temperature, as indicated in the following table:

Temperature	Float charge voltage
5°C	2.33 - 2.36 V
15°C	2.30 - 2.33 V
25°C	2.27 - 2.30 V
30°C	2.25 - 2.28 V
35°C	2.24 - 2.27 V

Chart 2

Under these conditions a full recharge will be completed in approximately 48 hours.

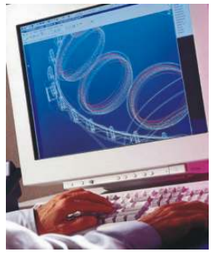
Fast recharge:
Increasing the charge voltage to 2.40 Volts per cell can reduce recharge time and it is possible, depending on the depth of discharge, to halve the recharge time. Under these conditions, however, the charge must be monitored and must be terminated when the charge current remains reasonably steady for 3 hours after the voltage limit has been reached. At the beginning of charge the current must be limited to $0.4C_{20}$ (A).

Ripple current:
The ripple content of the charging current affects the life of the battery. It is recommended to limit the continuous ripple current to $0.05\ C_{20}$ (in amperes) as recommended value (never exceed $0.10C_{20}$). Transient and other ripple type voltage excursions can be accommodated provided that, with the battery disconnected, the system peak to peak voltage including regulation limits falls within ±2.5% of the recommended float voltage of the battery.

Operating temperature extreme

Discharge	Charge	Storage
-20~60°C	-10~50°C	-20~60°C

The atmospheric humidity for battery should be between 5% and 95%.



Standards and battery storage

You can expect our batteries meet with the standards JIS, DIN, IEC & BS6290-4.
We have obtained ISO9001 & ISO14001 certification.
We have obtained UL approval (MH25860) for all types of batteries.
We have obtained CE approval for all type of batteries.

All these render our batteries to be compatible with requirements of world-level equipments.

Shipment and storage

1 When moving batteries, suitable mechanical handing aids should be used. Never drag or roll the battery since damage will be caused.
2 Do not touch the battery terminals or the safety valve during handling.
3 The batteries are fully charged before shipment, do not have a short circuit.

Storage conditions :
The battery should be stored away from any moisture or source of heat.
Storage times :
The self-discharge of VISION CP series batteries as a function of temperature is as follows :

3 % per month at 20°C
6 % per month at 30°C
10 % per month at 40°C

In order to ensure that the battery can be charged easily after a long period of storage, it is recommended that batteries should not be stored for more than the following periods without recharging :

6 months at 20°C
4 months at 30°C
2 months at 40°C

Failure to comply with these recommendations may compromise the life expectancy of the battery.
Determining the state of charge of the battery
The state of charge of the battery can be determined by measuring the off-load voltage after the battery has been allowed to rest for 24 hours.

The storage area should be clean, dry and ventilated.

% of capacity at 20°C	Voltage per cell at differents temperatures				
	0°C	10°C	20°C	30°C	40°C
100%	2,16	2,15	2,14	2,13	2,13
80%	2,09	2,09	2,09	2,09	2,09
60%	2,06	2,06	2,06	2,06	2,06
40%	2,02	2,02	2,02	2,02	2,02
20%	1,97	1,97	1,97	1,97	1,97

Chart 3

Recharging stored batteries
The batteries should be recharged at the float charge voltage of 2.27~2.30 volts at 25°C per cell for a minimum period of 48 hours.
The battery will be charged when the charging current has remained constant for a period of 3 hours.

Maintenance

- Check the tightening of connections.
- Every month, it is recommended that the total voltage at the battery terminals be measured. It should be Nx2.27-2.30 at a temperature of 25 ℃
  number of cells in the battery.
- Once each year, it is recommended that the voltage of each cell in the battery should be read off.
- A difference of plus or minus 2.0% between these individual voltages and the average voltage may be observed. This is due to the gas- recombination process.
- A check on capacity (independent operation on load) can be performed once or twice per year.

Safety :When carrying out any work on the battery, the applicable safety standards should be followed.

Note :it is recommended that a battery log be maintained , and that records should be kept of the total voltage measurements, any mains failures, major battery discharges (current and time) etc.

The main factors causing reduction in the life expectancy of VISION CP Series cells:
- Deep discharges
- Poor regulation on the float voltage
- Cycling or micro- cycling
- Poor quality (smoothing) of the charging current
- High ambient temperature.

Installation of the battery

General recommendations
- Do not wear clothing of synthetic material , to avoid the generation of static potentials.
- Use insulated tools.
- Consult the drawing for the correct position of the cell poles (positive=red colour, negative = black colour).
- Before attaching the inter-cell flexible cables, check that all terminals are in the correct position.
- The battery cells are connected in series, which is with a positive pole connected to a negative pole.
- Use only a damp cotton cloth for cleaning purposes.
- There is no technical reason for limiting the number of strings but for practical installation reasons. It is recommended not allowed to exceed 3 strings in parallel especially if the battery is used in high discharge rates(backup time less than 15 mins)

Other cautions

(1) When cleaning the batteries, use soft cloth only. Use of organic solvents such as gasoline or thinner, and application or adherence of oil to the batteries must be avoided. Do not clean the batteries using dirty or oily cloth. Also contact with soft polyvinyl chloride or the like must be avoided.

(2) Batteries may generate inflammable gas in some cases. Do not expose them to flame or excess heat. Do not short batteries.

(3) Do not attempt to disassemble the batteries. Avoid contact with sulfuric acid leaking from broken batteries. If acid gets into contact with clothes,rinse the area generously with water.If acid gets into contact with your skin or eyes,generously wash the affected area with clean water,and consult a physician immediately.

(4) Batteries explode if put into the fire. Never dispose of batteries in the fire.

(5) Mixed usage of batteries differing in capacity, type, manufacturer or history of use (charge/discharge operation) must be AVOIDED for this may damage the batteries and the equipment due to the difference in characteristic values.

(6) While our batteries are exceptionally dependable, we do not recommend use in life support medical applications unless there is an alternate battery or back-up power supply.

(7)Acid leakage and unusual appearance must be avoided before switching on, noting open circuit voltage.

(8)There must be appointed man operating for 24 hs after switching on to solving potential problems in time, noting voltage and current.

(9) When the batteries come to their end of life, discharge duration time becomes shorter. Finally, batteries lose their available capacity by internal short-circuit and/or dry out of electrolyte. Therefore, please consider the design of the charger for the battery with some care regarding above battery damage modes, such as short-circuit protection for out put.