

| XTV121100                                                       |      |       |       |       |       |       |      |      |      |      |      |      |
|-----------------------------------------------------------------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| Constant Current Discharge Characteristics Unit: A (25°C, 77°F) |      |       |       |       |       |       |      |      |      |      |      |      |
| F.V/Time                                                        | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |
| 1.60V                                                           | 425  | 307   | 235   | 138   | 78.6  | 55.8  | 43.7 | 31.2 | 20.0 | 13.1 | 10.7 | 5.53 |
| 1.67V                                                           | 382  | 289   | 227   | 135   | 77.5  | 55.4  | 43.5 | 30.8 | 19.9 | 13.0 | 10.6 | 5.52 |
| 1.70V                                                           | 364  | 276   | 222   | 134   | 77.2  | 55.0  | 43.0 | 30.7 | 19.7 | 12.9 | 10.5 | 5.51 |
| 1.75V                                                           | 339  | 254   | 207   | 130   | 75.6  | 54.0  | 42.5 | 30.3 | 19.5 | 12.8 | 10.4 | 5.50 |
| 1.80V                                                           | 289  | 232   | 188   | 123   | 72.3  | 52.1  | 41.2 | 29.4 | 18.9 | 12.6 | 10.2 | 5.33 |
| 1.85V                                                           | 231  | 200   | 163   | 114   | 67.1  | 48.8  | 38.9 | 28.2 | 18.2 | 12.0 | 9.86 | 5.15 |
| Constant Power Discharge Characteristics Unit: W (25°C, 77°F)   |      |       |       |       |       |       |      |      |      |      |      |      |
| F.V/Time                                                        | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |
| 1.60V                                                           | 4173 | 3108  | 2509  | 1543  | 890   | 640   | 505  | 363  | 236  | 155  | 126  | 66.7 |
| 1.67V                                                           | 3921 | 2975  | 2418  | 1515  | 884   | 635   | 502  | 361  | 235  | 154  | 125  | 66.6 |
| 1.70V                                                           | 3745 | 2914  | 2368  | 1508  | 880   | 633   | 501  | 359  | 234  | 153  | 124  | 66.1 |
| 1.75V                                                           | 3384 | 2783  | 2251  | 1464  | 862   | 622   | 493  | 356  | 231  | 152  | 123  | 65.7 |
| 1.80V                                                           | 2988 | 2573  | 2053  | 1411  | 827   | 600   | 479  | 346  | 228  | 149  | 122  | 64.9 |
| 1.85V                                                           | 2719 | 2220  | 1834  | 1323  | 773   | 567   | 455  | 334  | 218  | 145  | 118  | 62.3 |



### SALES OFFICE:

Hitachi Chemical Energy Technology Co., Ltd.  
GLOBAL HQ

11F, No.150, Sec.4, Chengde Rd.,  
Shilin Dist., Taipei City 11167, Taiwan (R.O.C.)  
Tel : +886-2-2880-5600  
Fax : +886-2-2888-3300  
Mail : service@hitachi-chem-en.com.tw

Hitachi Chemical Energy Technology (Americas) Co., Ltd  
AMERICA HQ

4008 Clay Avenue, Suite 210,  
Haltom City, TX 76117, U.S.A  
Tel : +1-817-244-7777 / 1-(800)3-CSB-USA(272872)  
Fax : +1-817-244-4445  
Mail : service@hitachi-chem-en.us

Hitachi Chemical Energy Technology (Shanghai) Co., Ltd.  
SHANGHAI OFFICE

Room 2105, Qiang Sheng Tower, Pu Jian Rd.,  
Shanghai, China PC : 200127  
Tel : +86-21-5046-1622 / +86-21-5046-0833  
+86-21-5046-0094

Fax : +86-21-5046-1046  
Mail : service@hitachi-chem.ensh.cn

### MANUFACTURING SITE:

Hitachi Chemical Energy Technology Co., Ltd.  
TAIWAN GUANTIAN FACTORY

No.16, Gongye W. Rd., Erzhen Village,  
Guantian District, Tainan City 72048, Taiwan (R.O.C.)  
Tel : +886-6-698-7600  
Fax : +886-6-698-5734

Hitachi Chemical Energy Technology Co., Ltd (Philippines Branch)  
PHILIPPINES FACTORY

Panorama Compound NO.7, South Avenue,  
Phase3, PEZA, Rosario, Cavite, Philippines 4106  
Tel : 63-46-437-0688 / 63-46-437-0838  
Fax : 63-46-437-0980

1702-500-XTV

BATTERY



CSB BATTERY TECHNOLOGIES (BEIJING) CO., LTD. (CHINA)  
BEIJING OFFICE

Room 1009, 10th Building, Wanda Plaza,  
Jianguo Rd., Chaoyang Dis., Beijing, China PC : 100022  
Tel : +86-10-5820-5336 / +86-10-5820-5338  
Fax : +86-10-5820-3053  
Mail : chinassl@csb-battery.com

Hitachi Chemical Energy Technology (EMEA) B.V.  
EUROPE HQ

Keurmeesterstraat 28-30,  
2984 BA Ridderkerk, The Netherlands  
Tel : +31-(0)-180-418-140  
Fax : +31-(0)-180-418-327  
Mail : service@hitachi-chem-en.ca.nl

Hitachi Chemical Energy Technology (Shanghai) Co., Ltd.  
SHENZHEN OFFICE

Room 2103-2105, Block East,  
City Professional Hub, Shennan Avenue,  
Futian, Shenzhen, China PC : 518040  
Tel : +86-755-8831-6488 / +86-755-8831-6775  
+86-755-8831-6075

Fax : +86-755-8831-6548  
Mail : service@hitachi-chem.ensh.cn

Hitachi Chemical Energy Technology (Vietnam) Co., Ltd  
VIETNAM FACTORY

Duong so 4, Khu Cong Nghiep Nhan Trach 3 - Giai Doan 2,  
Xa Long Tho, Huyen Nhan Trach, Tinh Dong Nai, Viet Nam  
Tel : +84-61-356-9120  
Fax : +84-61-356-9165

Hitachi Chemical  
HITACHI



Extreme Temperature Series  
ENERGY OF INFINITY ►

XTV series

BATTERY  
CSB



Hitachi Chemical Energy Technology Co., Ltd.



# XTV Series

XTV-series batteries are specially designed for extreme temperature (-20 to 50°C) in standby service. With VRLA technology, they are small, lightweight and offer a service life of up to 12 years in standby service. As with all our ISO/UL certified batteries, X TV series batteries are rechargeable, efficient, maintenance-free, leakproof and viable in any orientation.



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

## Features and Benefits :

- Optional flame-retardant container and cover complies with UL (94-V0)-28%L.O.I.
- X TV series is battery is in line with EUROBAT guide for >12 YEARS VERY LONG LIFE.
- Innovative plate structure dramatically improve service life under harsh conditions
- Newly formulated lead paste sustains performance while reducing thermal runaway risk
- High-grade separator and new electrolyte formula extend battery life
- Uniformed plate formation for consistent capacity
- Improved Pd-Ca-Sn alloy resists grid corrosion
- Viable in any orientation
- No-spill design
- Maintenance free

## Long Service Life :

- Up to 12 years of service life in floating charge conditios at 25°C(77°F)

## Reliability :

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

## Applications :

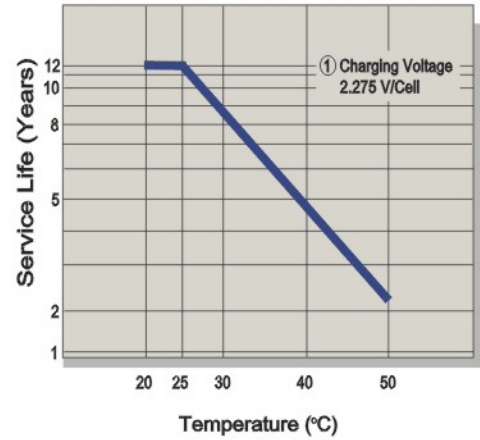
### Standby use

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

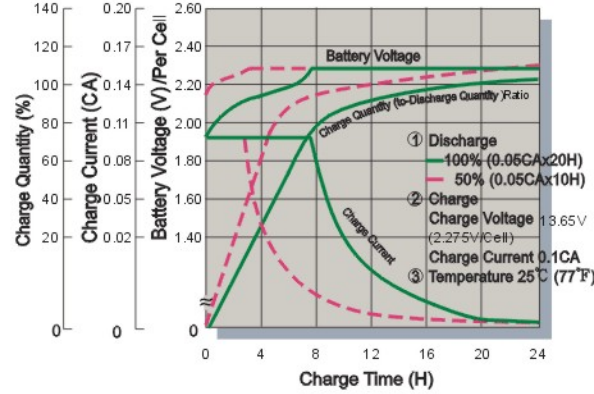
### Solar Cell Power Generation

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

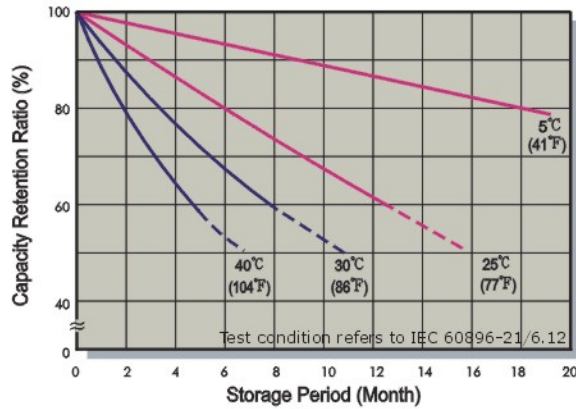
## Expected Life vs. Operating Temperature



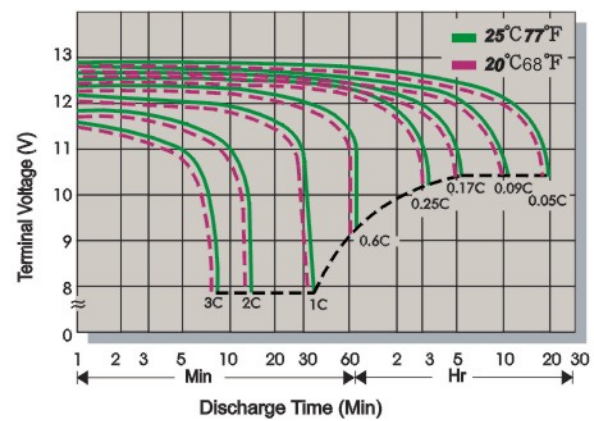
## Battery Voltage and Charge Time for Standby Use



## Capacity Retention Characteristics

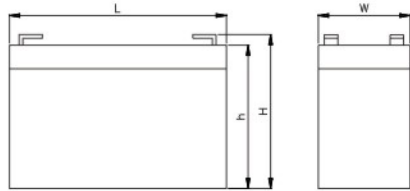


## Discharge Characteristics

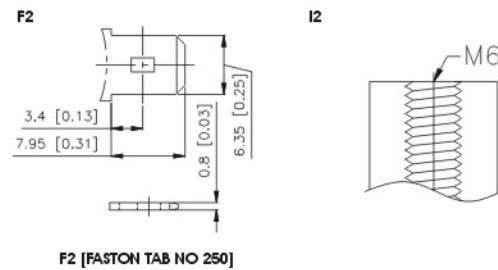


- The above diagrams are typical. For more detailed information please see the specific product sheets.
- C is the capacity of 20 hour-rate while the final voltage is 1.75V per cell.  
For example, For example, 1C discharge current of XTV1272 is: 1 x 7.2 = 7.2 (A)

## Battery Profile



## Terminal Type



## Specifications

| Battery Type | Nominal Voltage (V) | Nominal Capacity (Ah)* | Weight (Approx. Kg) | Internal Resistance Approx. (mΩ) | Short Circuit Current (A) | Max. Discharge Current 5 sec (A) | Dimensions (mm)    |                      |           |            | Terminal Type | Bolt           | Max. Charge Current (A) | Kg·cm/ lbf·in | N·m   |
|--------------|---------------------|------------------------|---------------------|----------------------------------|---------------------------|----------------------------------|--------------------|----------------------|-----------|------------|---------------|----------------|-------------------------|---------------|-------|
|              |                     |                        |                     |                                  |                           |                                  | Overall Height (H) | Container Height (h) | Length(L) | Width (W)  |               |                |                         |               |       |
| XTV1272      | 12                  | 7.2                    | 2.57                | 20.40                            | 305                       | 130                              | 102.0±1.5          | 94.3±1.0             | 150.9±2.0 | 64.8.0±1.0 | F2            | Faston Tab 250 | 2.16                    | ..            | ..    |
| XTV12550     | 12                  | 55                     | 17.90               | 5.20                             | 1627                      | 300                              | 206.3±2.5          | 201.3±2.5            | 228.0±2.5 | 136.4±1.5  | □             | M6             | 16.5                    | 138.6/120.3   | 13.98 |
| XTV12800     | 12                  | 80                     | 25.50               | 4.70                             | 1917                      | 800                              | 213.5±2.5          | 210.5±2.5            | 261.0±2.5 | 166.5±2.0  | □             | M6             | 24.0                    | 138.6/120.3   | 13.98 |
| XTV121000    | 12                  | 100                    | 30.20               | 4.10                             | 2258                      | 800                              | 213.6±2.5          | 210.6±2.5            | 308.7±2.5 | 160.0±2.0  | □             | M6             | 30.0                    | 138.6/120.3   | 13.98 |
| XTV121100    | 12                  | 110                    | 34.20               | 3.60                             | 2648                      | 800                              | 216.9±2.5          | 213.9±2.5            | 343.0±2.5 | 170.0±2.0  | □             | M6             | 33.0                    | 138.6/120.3   | 13.98 |

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

| XTV1272                                                         |      |       |       |       |       |       |      |      |      |      |      |      |  |
|-----------------------------------------------------------------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|--|
| Constant Current Discharge Characteristics Unit: A (25°C, 77°F) |      |       |       |       |       |       |      |      |      |      |      |      |  |
| F.V/Time                                                        | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |  |
| 1.60V                                                           | 27.7 | 17.7  | 13.4  | 7.94  | 4.60  | 3.35  | 2.67 | 1.93 | 1.25 | 0.88 | 0.72 | 0.40 |  |
| 1.67V                                                           | 26.8 | 17.4  | 13.3  | 7.87  | 4.47  | 3.28  | 2.63 | 1.89 | 1.24 | 0.87 | 0.71 | 0.39 |  |
| 1.70V                                                           | 25.8 | 17.1  | 13.2  | 7.81  | 4.41  | 3.24  | 2.61 | 1.89 | 1.23 | 0.86 | 0.70 | 0.38 |  |
| 1.75V                                                           | 24.6 | 16.4  | 12.9  | 7.74  | 4.31  | 3.21  | 2.60 | 1.88 | 1.22 | 0.84 | 0.69 | 0.37 |  |
| 1.80V                                                           | 21.8 | 15.4  | 12.3  | 7.52  | 4.22  | 3.16  | 2.57 | 1.86 | 1.21 | 0.82 | 0.68 | 0.36 |  |
| 1.85V                                                           | 18.3 | 13.9  | 11.2  | 7.10  | 4.10  | 3.06  | 2.48 | 1.79 | 1.19 | 0.80 | 0.66 | 0.35 |  |

| Constant Power Discharge Characteristics Unit: W (25°C, 77°F) |      |       |       |       |       |       |      |      |      |      |      |      |  |
|---------------------------------------------------------------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|--|
| F.V/Time                                                      | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |  |
| 1.60V                                                         | 299  | 193   | 149   | 89.8  | 54.8  | 40.0  | 32.1 | 23.1 | 15.2 | 10.3 | 8.64 | 4.68 |  |
| 1.67V                                                         | 290  | 190   | 148   | 89.3  | 54.7  | 39.9  | 31.9 | 23.0 | 15.1 | 10.2 | 8.62 | 4.62 |  |
| 1.70V                                                         | 282  | 188   | 147   | 88.8  | 54.5  | 39.8  | 31.8 | 22.9 | 15.0 | 10.1 | 8.59 | 4.60 |  |
| 1.75V                                                         | 264  | 182   | 145   | 88.1  | 53.8  | 39.5  | 31.7 | 22.8 | 14.9 | 10.0 | 8.55 | 4.55 |  |
| 1.80V                                                         | 239  | 173   | 138   | 86.3  | 53.2  | 39.1  | 31.4 | 22.7 | 14.8 | 9.92 | 8.50 | 4.50 |  |
| 1.85V                                                         | 206  | 160   | 128   | 82.3  | 51.8  | 37.8  | 30.2 | 21.9 | 14.7 | 9.84 | 8.26 | 4.44 |  |

| XTV12550                                                        |      |       |       |       |       |       |      |      |      |      |      |      |  |
|-----------------------------------------------------------------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|--|
| Constant Current Discharge Characteristics Unit: A (25°C, 77°F) |      |       |       |       |       |       |      |      |      |      |      |      |  |
| F.V/Time                                                        | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |  |
| 1.60V                                                           | 247  | 166   | 123   | 71.8  | 41.0  | 29.0  | 22.7 | 16.2 | 10.6 | 6.89 | 5.58 | 2.84 |  |
| 1.67V                                                           | 227  | 159   | 119   | 70.1  | 40.0  | 28.5  | 22.5 | 16.1 | 10.5 | 6.83 | 5.55 | 2.80 |  |
| 1.70V                                                           | 216  | 155   | 117   | 69.5  | 39.7  | 28.3  | 22.4 | 16.0 | 10.4 | 6.74 | 5.48 | 2.79 |  |
| 1.75V                                                           | 194  | 144   | 112   | 67.9  | 39.4  | 28.0  | 22.1 | 15.8 | 10.3 | 6.70 | 5.41 | 2.75 |  |
| 1.80V                                                           | 172  | 130   | 105   | 64.9  | 38.1  | 27.3  | 21.7 | 15.4 | 10.1 | 6.54 | 5.31 | 2.73 |  |
| 1.85V                                                           | 152  | 113   | 92.5  | 60.6  | 36.2  | 26.1  | 20.8 | 14.8 | 9.68 | 6.28 | 5.09 | 2.64 |  |

| Constant Power Discharge Characteristics Unit: W (25°C, 77°F) |      |       |       |       |       |       |     |     |     |      |      |      |  |
|---------------------------------------------------------------|------|-------|-------|-------|-------|-------|-----|-----|-----|------|------|------|--|
| F.V/Time                                                      | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR | 3HR | 5HR | 8HR  | 10HR | 20HR |  |
| 1.60V                                                         | 2402 | 1693  | 1310  | 786   | 460   | 332   | 264 | 188 | 123 | 80.9 | 66.0 | 34.6 |  |
| 1.67V                                                         | 2227 | 1642  | 1283  | 780   | 458   | 331   | 261 | 187 | 122 | 80.2 | 65.6 | 34.4 |  |
| 1.70V                                                         | 2150 | 1590  | 1268  | 770   | 454   | 330   | 260 | 186 | 121 | 79.7 | 65.1 | 34.2 |  |
| 1.75V                                                         | 2010 | 1519  | 1221  | 761   | 451   | 327   | 259 | 185 | 120 | 78.7 | 64.2 | 33.9 |  |
| 1.80V                                                         | 1879 | 1411  | 1147  | 734   | 443   | 321   | 255 | 182 | 118 | 77.7 | 63.4 | 33.4 |  |
| 1.85V                                                         | 1613 | 1279  | 1030  | 688   | 419   | 309   | 245 | 175 | 115 | 74.8 | 61.1 | 32.3 |  |

| XTV12800                                                        |      |       |       |       |       |       |      |      |      |      |      |      |  |
|-----------------------------------------------------------------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|--|
| Constant Current Discharge Characteristics Unit: A (25°C, 77°F) |      |       |       |       |       |       |      |      |      |      |      |      |  |
| F.V/Time                                                        | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |  |
| 1.60V                                                           | 303  | 204   | 155   | 92.7  | 54.7  | 40.1  | 31.6 | 22.1 | 14.3 | 9.49 | 7.82 | 4.13 |  |
| 1.67V                                                           | 289  | 192   | 151   | 91.4  | 54.2  | 39.8  | 31.3 | 22.0 | 14.2 | 9.42 | 7.75 | 4.11 |  |
| 1.70V                                                           | 255  | 185   | 148   | 90.8  | 53.8  | 39.5  | 31.1 | 21.9 | 14.1 | 9.38 | 7.73 | 4.08 |  |
| 1.75V                                                           | 229  | 172   | 142   | 88.1  | 53.0  | 38.9  | 30.6 | 21.6 | 13.9 | 9.27 | 7.65 | 4.00 |  |
| 1.80V                                                           | 202  | 157   | 128   | 83.5  | 51.3  | 38.0  | 29.9 | 21.2 | 13.6 | 9.12 | 7.53 | 3.96 |  |
| 1.85V                                                           | 151  | 138   | 112   | 77.7  | 48.3  | 36.2  | 28.5 | 20.1 | 13.0 | 8.72 | 7.23 | 3.81 |  |

| Constant Power Discharge Characteristics Unit: W (25°C, 77°F) |      |       |       |       |       |       |     |     |     |     |      |      |  |
|---------------------------------------------------------------|------|-------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|--|
| F.V/Time                                                      | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR | 3HR | 5HR | 8HR | 10HR | 20HR |  |
| 1.60V                                                         | 2925 | 2114  | 1660  | 1033  | 627   | 464   | 367 | 262 | 170 | 112 | 92.7 | 49.3 |  |
| 1.67V                                                         | 2742 | 2023  | 1618  | 1026  | 625   | 462   | 366 | 260 | 169 | 111 | 92.6 | 49.2 |  |
| 1.70V                                                         | 2649 | 1977  | 1596  | 1014  | 621   | 459   | 363 | 258 | 168 | 110 | 92.5 | 49.0 |  |
| 1.75V                                                         | 2438 | 1867  | 1517  | 996   | 614   | 454   | 361 | 256 | 167 | 109 | 91.8 | 48.5 |  |
| 1.80V                                                         | 2143 | 1746  | 1397  | 951   | 594   | 444   | 352 | 251 | 165 | 108 | 89.8 | 47.8 |  |
| 1.85V                                                         | 1775 | 1507  | 1242  | 898   | 560   | 424   | 335 | 242 | 158 | 106 | 86.9 | 45.9 |  |

| XTV121000                                                       |      |       |       |       |       |       |      |      |      |      |      |      |  |
|-----------------------------------------------------------------|------|-------|-------|-------|-------|-------|------|------|------|------|------|------|--|
| Constant Current Discharge Characteristics Unit: A (25°C, 77°F) |      |       |       |       |       |       |      |      |      |      |      |      |  |
| F.V/Time                                                        | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR  | 3HR  | 5HR  | 8HR  | 10HR | 20HR |  |
| 1.60V                                                           | 371  | 259   | 194   | 116   | 67.8  | 48.9  | 38.7 | 27.7 | 17.7 | 11.6 | 9.54 | 5.05 |  |
| 1.67V                                                           | 328  | 242   | 188   | 114   | 67.2  | 48.7  | 38.4 | 27.4 | 17.5 | 11.5 | 9.47 | 5.02 |  |
| 1.70V                                                           | 309  | 231   | 184   | 113   | 66.7  | 48.3  | 38.0 | 27.3 | 17.4 | 11.4 | 9.45 | 5.01 |  |
| 1.75V                                                           | 282  | 212   | 173   | 110   | 65.5  | 47.7  | 37.6 | 26.9 | 17.3 | 11.3 | 9.38 | 5.00 |  |
| 1.80V                                                           | 243  | 193   | 157   | 104   | 63.0  | 46.3  | 36.5 | 26.1 | 16.8 | 11.2 | 9.16 | 4.84 |  |
| 1.85V                                                           | 191  | 170   | 138   | 96.9  | 59.1  | 43.8  | 34.6 | 25.2 | 16.1 | 10.7 | 8.82 | 4.63 |  |

| Constant Power Discharge Characteristics Unit: W (25°C, 77°F) |      |       |       |       |       |       |     |     |     |     |      |      |  |
|---------------------------------------------------------------|------|-------|-------|-------|-------|-------|-----|-----|-----|-----|------|------|--|
| F.V/Time                                                      | 5MIN | 10MIN | 15MIN | 30MIN | 60MIN | 90MIN | 2HR | 3HR | 5HR | 8HR | 10HR | 20HR |  |
| 1.60V                                                         | 3591 | 2638  | 2095  | 1307  | 778   | 569   | 450 | 323 | 211 | 138 | 114  | 59.9 |  |
| 1.67V                                                         | 3382 | 2513  | 2029  | 1286  | 775   | 567   | 447 | 321 | 210 | 137 | 113  | 59.6 |  |
| 1.70V                                                         | 3268 | 2445  | 1987  | 1274  | 771   | 564   | 445 | 319 | 209 | 136 | 112  | 59.3 |  |
| 1.75V                                                         | 2932 | 2308  | 1880  | 1245  | 761   | 557   | 440 | 316 | 207 | 135 | 111  | 59.0 |  |
| 1.80V                                                         | 2572 | 2149  | 1727  | 1192  | 735   | 545   | 429 | 308 | 203 | 133 | 110  | 58.1 |  |
| 1.85V                                                         | 2255 | 1872  | 1546  | 1125  | 695   | 519   | 412 | 297 | 194 | 129 | 105  | 55.9 |  |