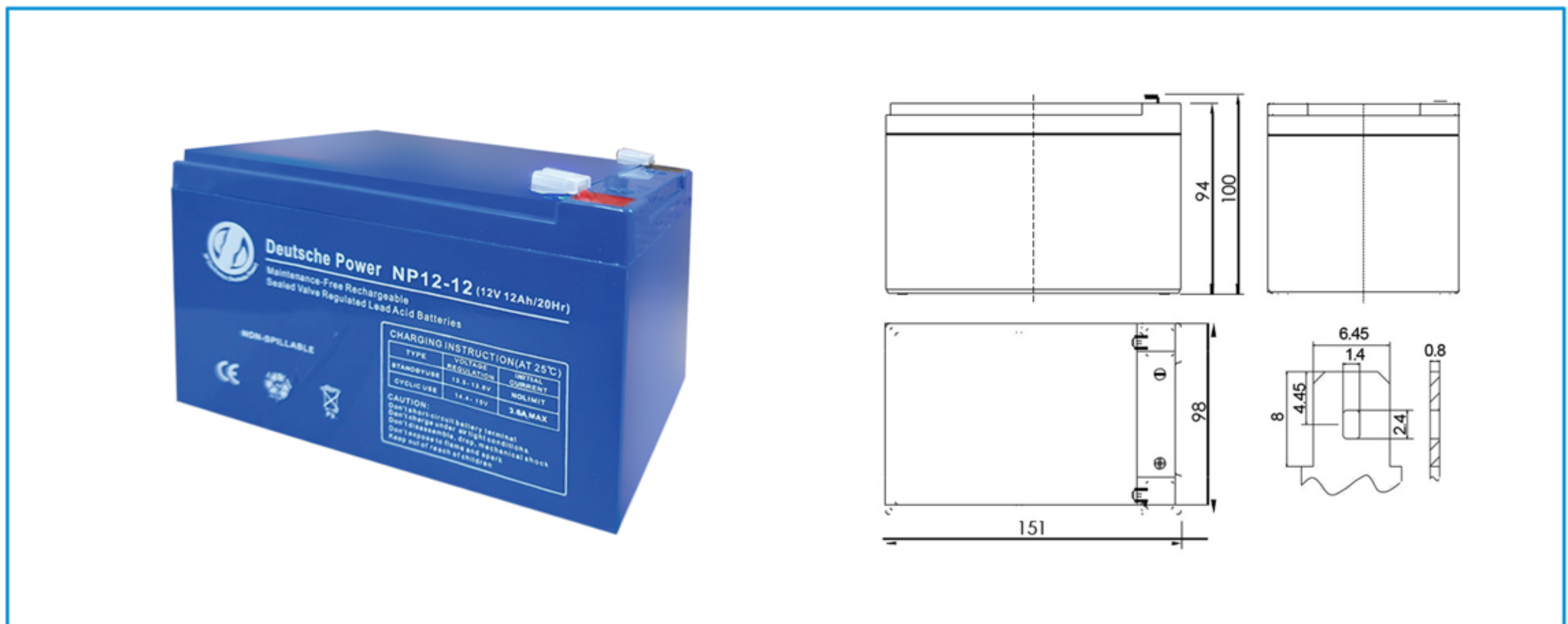


# 6-FM/NP12

FM/NP Battery Series (General Use Battery)



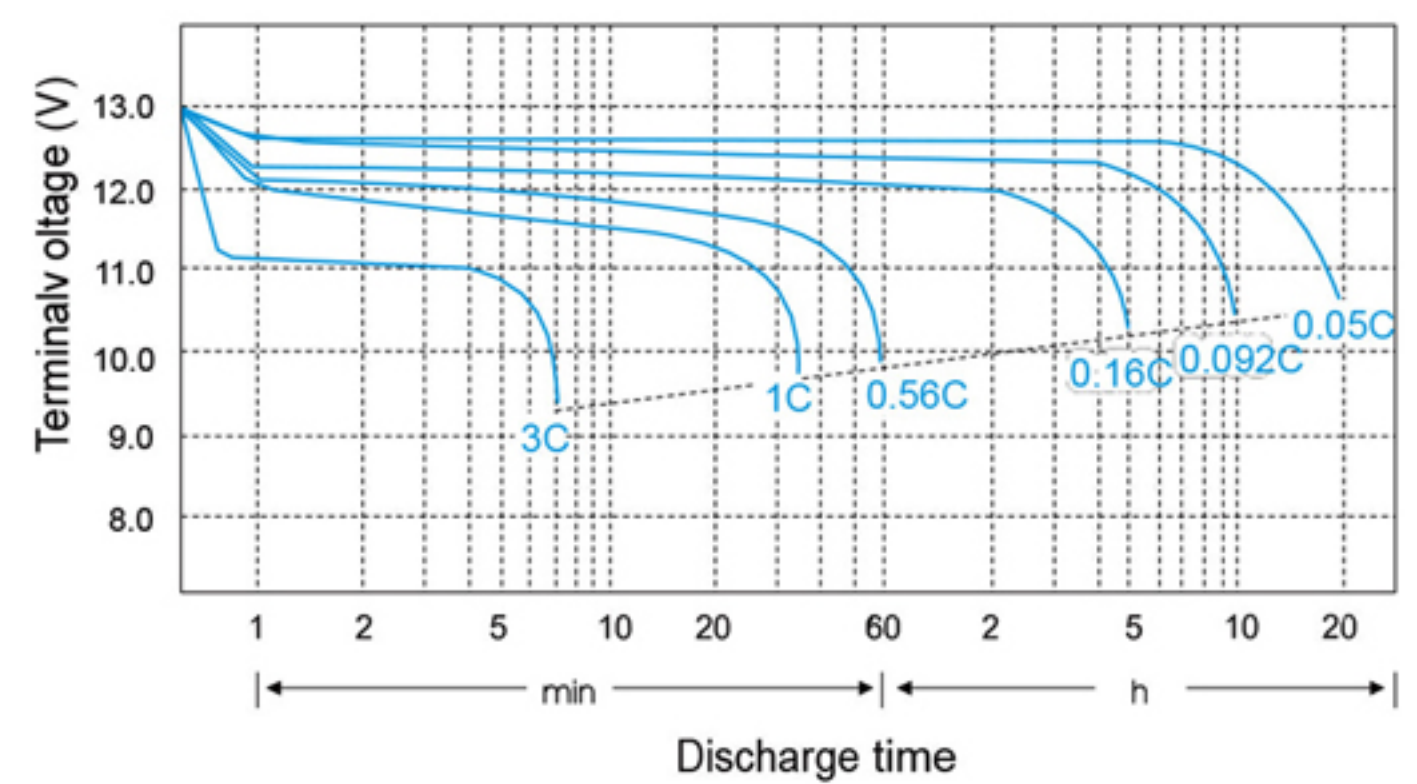
## Specifications

|                               |                               |                    |
|-------------------------------|-------------------------------|--------------------|
| Nominal Voltage               | 12V                           |                    |
| Rated Capacity (20 hour rate) | 12Ah                          |                    |
| Dimensions                    | Total Height (with terminals) | 3.94 inches(100mm) |
|                               | Height                        | 3.70 inches(94mm)  |
|                               | length                        | 5.94 inches(151mm) |
|                               | width                         | 3.86 inches(98mm)  |
| Weight                        | Approx.7.92 Pound(3.60kg)     |                    |

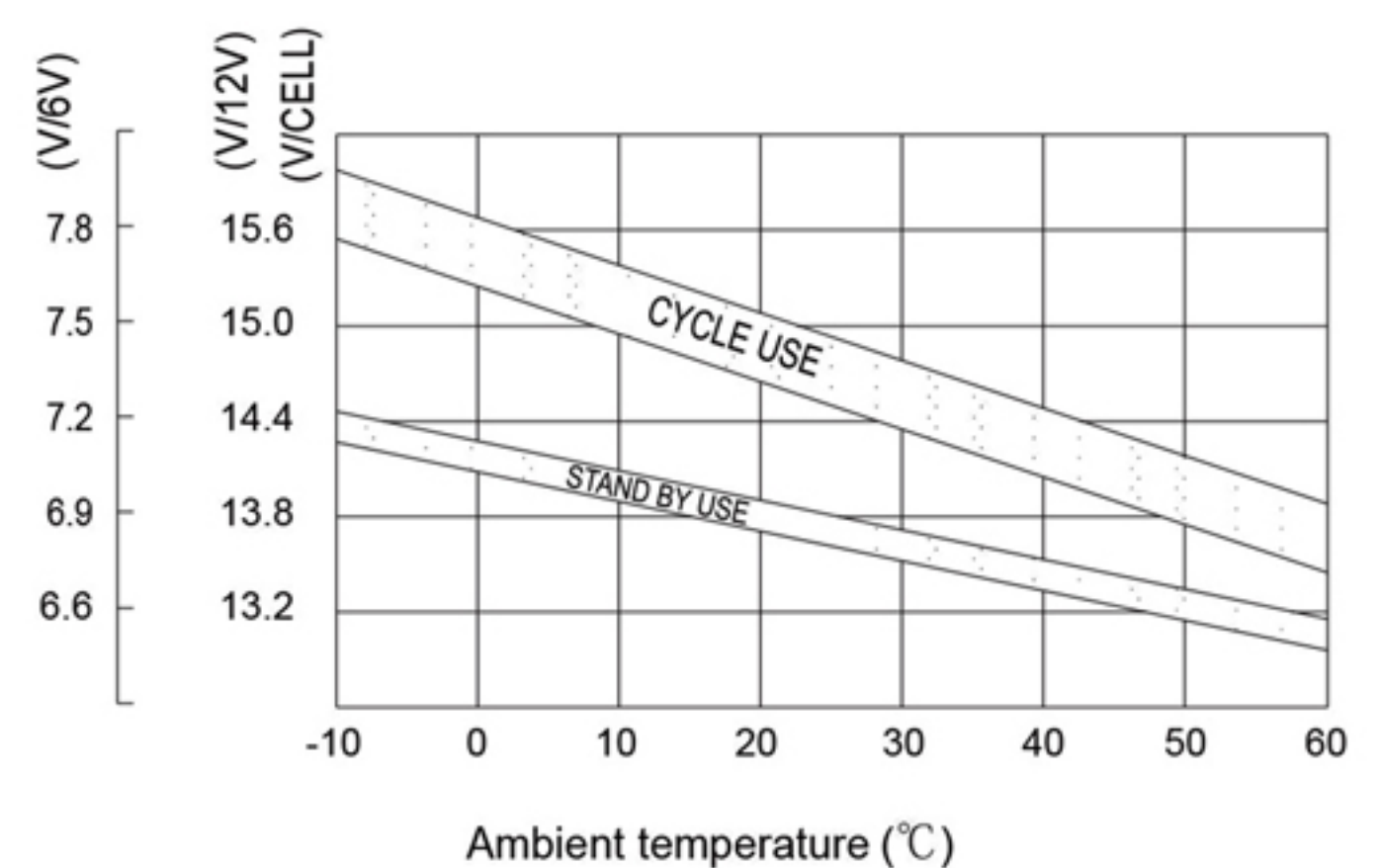
## Characteristics

|   |                                    |   |
|---|------------------------------------|---|
| Capacity<br>77°F(25°C)                            | 20 hour rate (600mA)               | 12.0 Ah   |
|   | 10 hour rate ( 1.12A)              | 11.2 Ah   |
|   | 5 hour rate (1.92A)                | 9.6 Ah  |
|   | 1hour rate (7.20A)                 | 7.2 Ah  |
|   | 15Minute Rate (21.1A)              | 5.3 Ah  |
| Internal Resistance                               | Full charged Battery<br>77°F(25°C) | 17 MΩ   |
|   | 104°F(40°C)                        | 102%  |
| Capacity affected by<br>Temperature (20hour rate) | 77°F(25°C)                         | 100%  |
|   | °F(0°C)                            | 85%   |
|   | 5°F(-15°C)                         | 65%   |
| Self-Discharge<br>77°F(25°C)                      | Capacity after 3 month storage     | 91%   |
|   | Capacity after 6 month storage     | 81%   |
|   | Capacity after 12 month storage    | 60%   |
| Max. Discharge Current<br>77°F(25°C)              | 180A(5S)                           |   |
| Terminal  | F2                                 |   |
| Charge<br>(Constant Voltage)                      | Cycle                              | Initial Charging Current less than 3.6A<br>Voltage 14.4~14.7 V / 77°F(25°C) |
|   | Float                              | Voltage 13.5~13.8V / 77°F(25°C)   |

## Discharge Curves 77°F(25°C)



## Relationship between charge voltage and temperature



## Constant Current Discharge (AMPERES @25°C)

| F.V/Time | 5Min | 10Min | 15Min | 30Min | 60Min | 2H   | 3H   | 4H   | 5H   | 10H  | 20H  |
|----------|------|-------|-------|-------|-------|------|------|------|------|------|------|
| 9.6      | 45.7 | 29.0  | 23.3  | 13.0  | 7.92  | 4.48 | 3.08 | 2.47 | 2.09 | 1.14 | 0.61 |
| 9.9      | 44.6 | 28.2  | 22.4  | 12.6  | 7.72  | 4.32 | 3.05 | 2.45 | 2.08 | 1.13 | 0.61 |
| 10.2     | 42.6 | 27.0  | 21.7  | 12.4  | 7.50  | 4.26 | 3.01 | 2.42 | 2.06 | 1.12 | 0.60 |
| 10.5     | 40.8 | 25.9  | 20.9  | 12.2  | 7.32  | 4.20 | 3.00 | 2.40 | 2.04 | 1.12 | 0.60 |
| 10.8     | 38.4 | 25.7  | 19.8  | 11.9  | 7.08  | 4.08 | 2.95 | 2.34 | 2.02 | 1.09 | 0.59 |

## Constant Power Discharge (WATTS PER CELL@25°C)

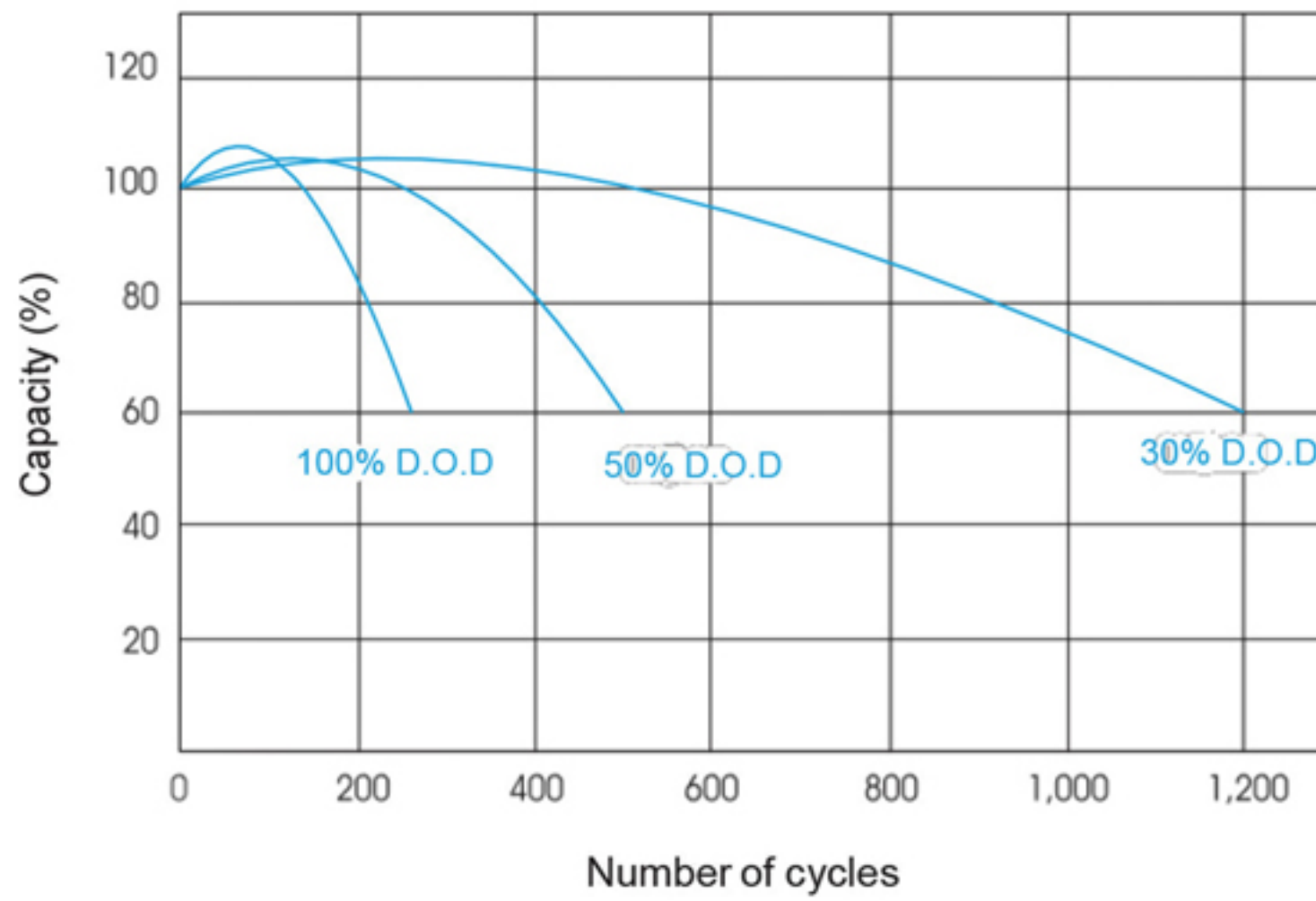
| F.V/Time | 5Min | 10Min | 15Min | 30Min | 60Min | 2H   | 3H   | 4H   | 5H   | 10H  | 20H  |
|----------|------|-------|-------|-------|-------|------|------|------|------|------|------|
| 9.6      | 509  | 326   | 264   | 148   | 91.4  | 52.3 | 36.7 | 29.4 | 24.9 | 13.6 | 7.30 |
| 9.9      | 498  | 317   | 255   | 144   | 89.2  | 50.5 | 36.3 | 29.2 | 24.8 | 13.5 | 7.28 |
| 10.2     | 475  | 304   | 247   | 142   | 86.8  | 49.9 | 35.9 | 28.9 | 24.7 | 13.4 | 7.25 |
| 10.5     | 456  | 292   | 238   | 140   | 84.8  | 49.3 | 35.8 | 28.7 | 24.4 | 13.4 | 7.22 |
| 10.8     | 429  | 290   | 229   | 136   | 82.1  | 47.9 | 35.3 | 28.0 | 24.1 | 13.1 | 7.10 |

# 6-FM/NP12

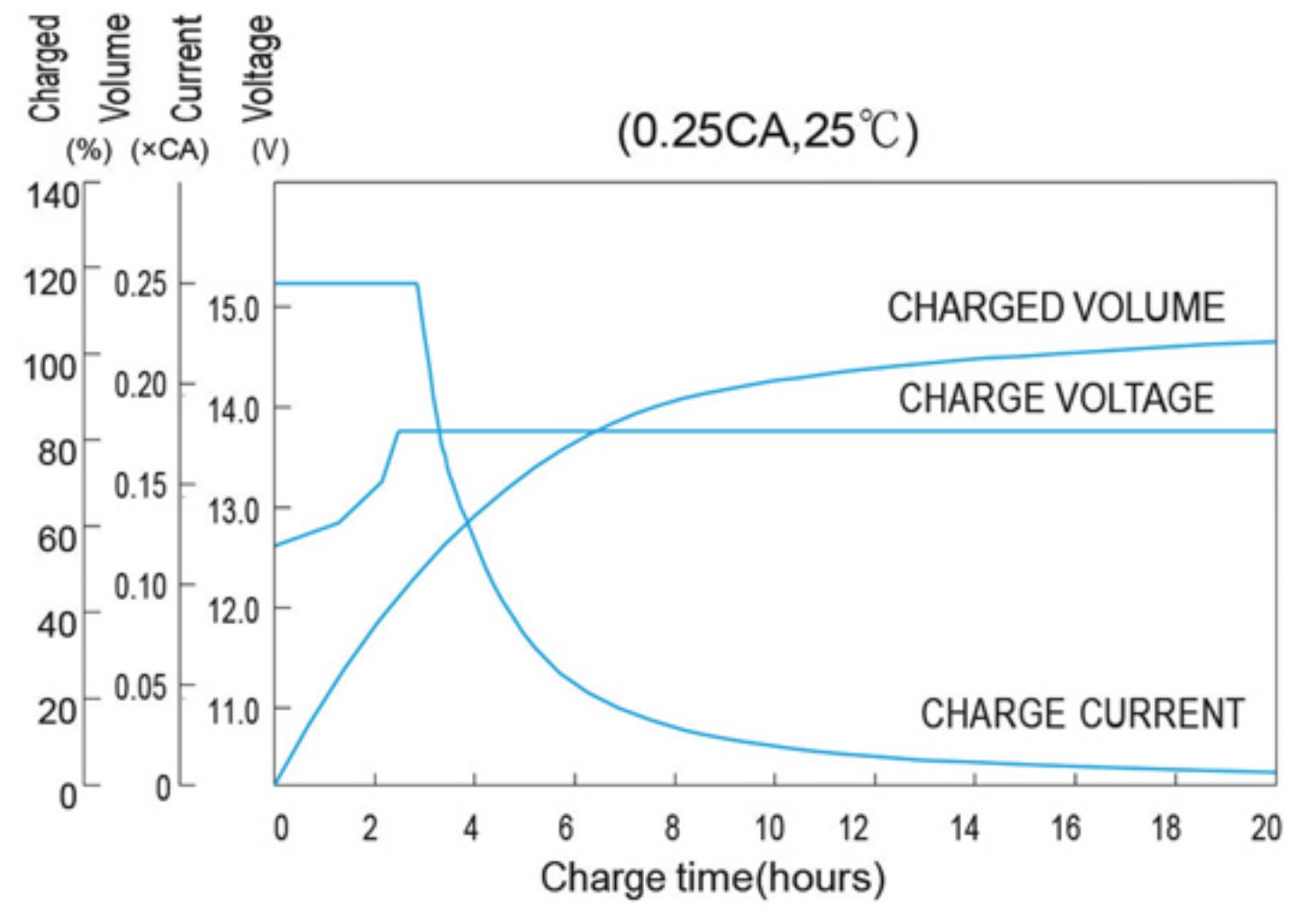
## FM/NP Battery Series (General Use Battery)

The operating environment temperature above 40°C should be avoided, After long term storage, The battery actual capacity would be less than the rated capacity. Full capacity will be obtained through several charge/discharge cycles. To get the longest life, Deutsche Power battery should be fully charged before storage

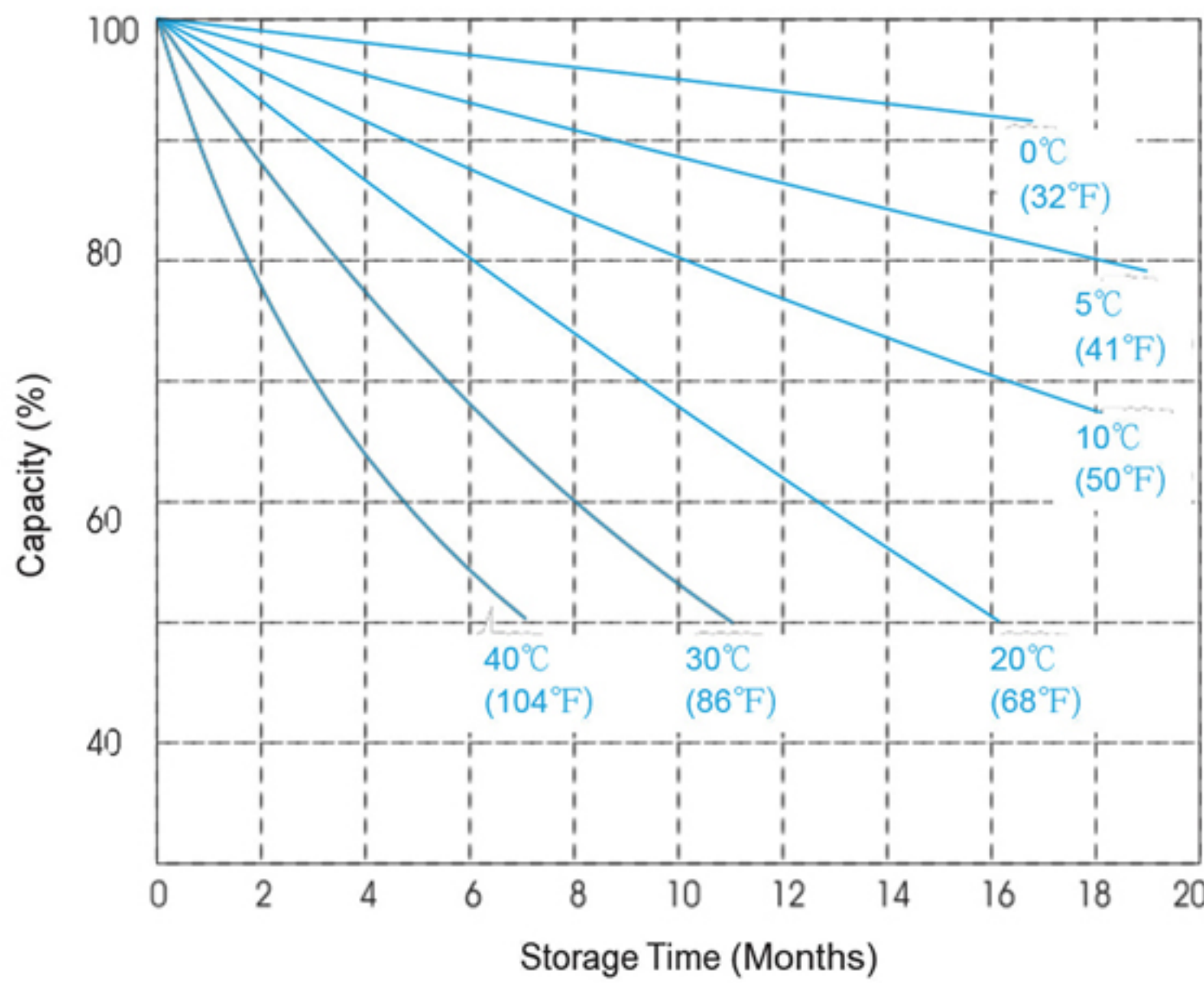
### Cycle service life in relation to depth of discharge



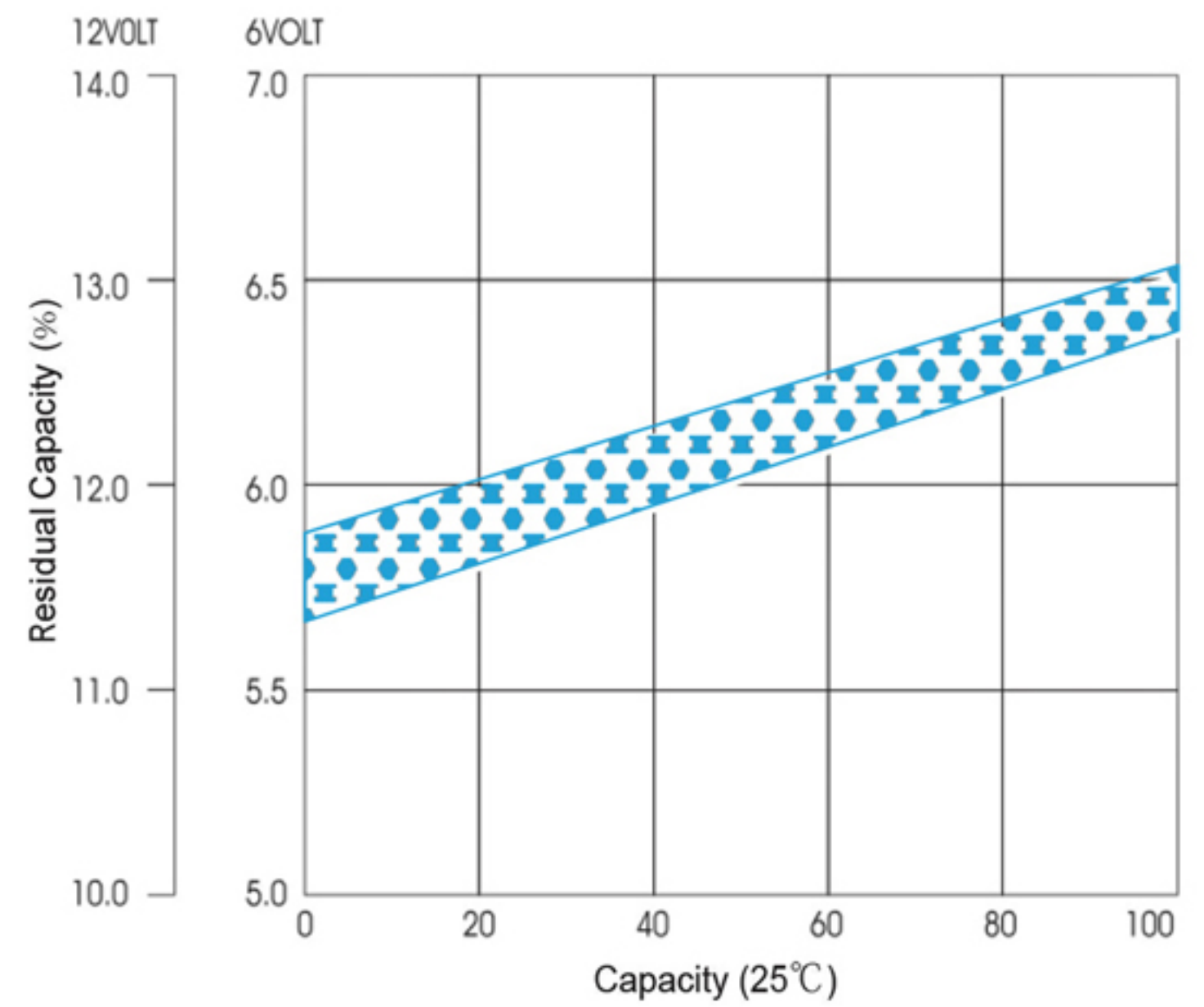
### Constant voltage charge characteristic



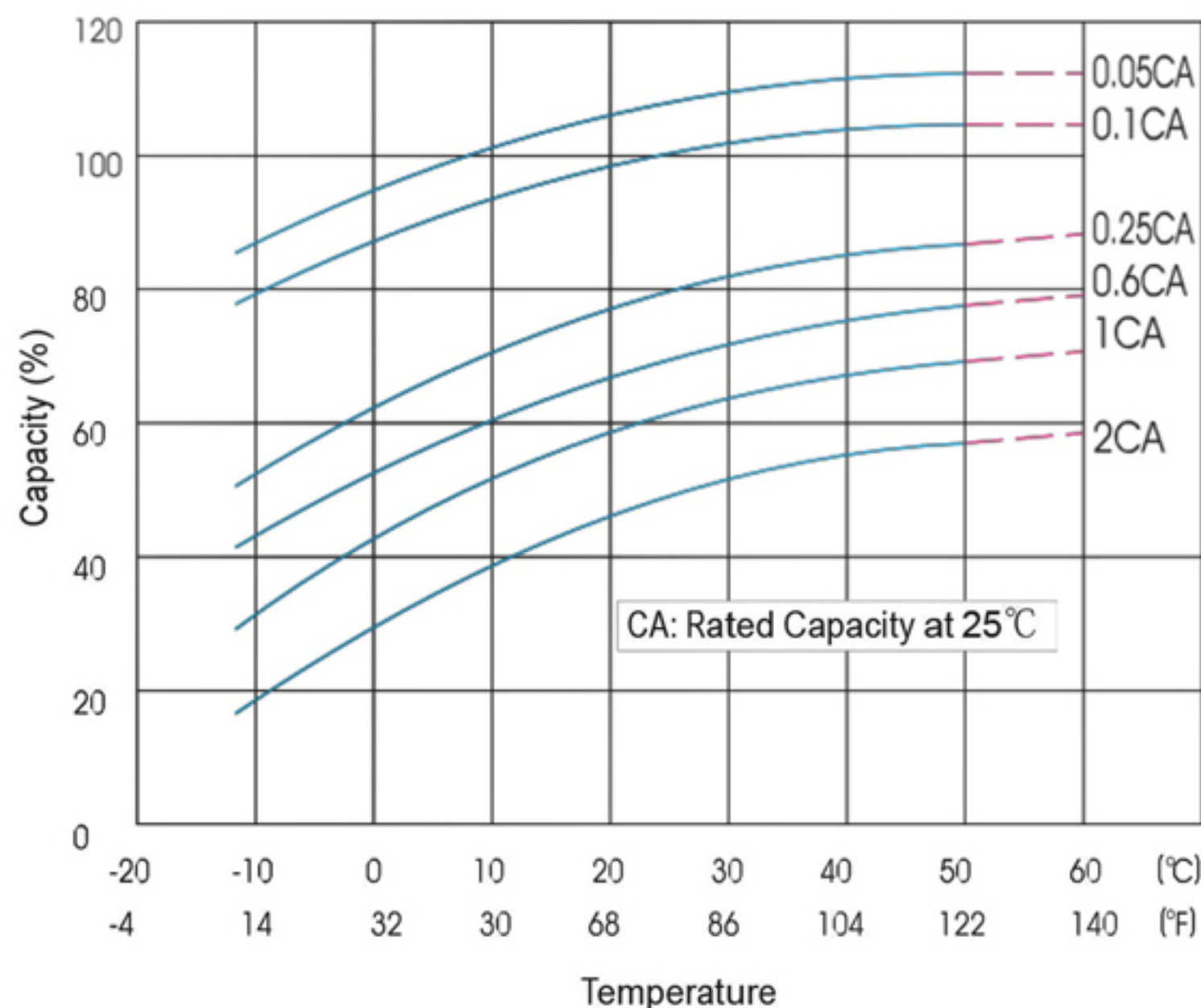
### Self-Discharge Characteristics



### Relationship of OCV and Residual Capacity % (25°C)



### Temperature effects on capacity



### Temperature effects float life

