

## LSE Series

The LSE range of VRLA batteries offers outstanding performance including a 15+ year design life and a cycle life in excess of 1200 cycles to 80% DOD. Built to the highest standards and compliant with the latest IEC 60896-21/22 standard this range also offers 100% capacity out-of-the-box and is capable of handling deep discharges for complete peace of mind. The use of flexible connectors and the ability to be installed both horizontally and vertically allows for multiple installation possibilities. This robust design uses the latest AGM technology to create a range that is suitable for many applications including both fixed and mobile telecoms, UPS, utilities and solar.

## Application

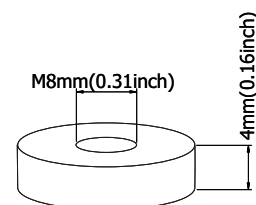
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|-------------------------|------------------------|
| Cable Television        | Control Equipment      |
| Communication Equipment | Medical Equipment      |
| Security System         | Emergency Power System |
| UPS                     | Power Plant            |

## General Features

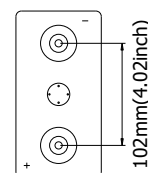
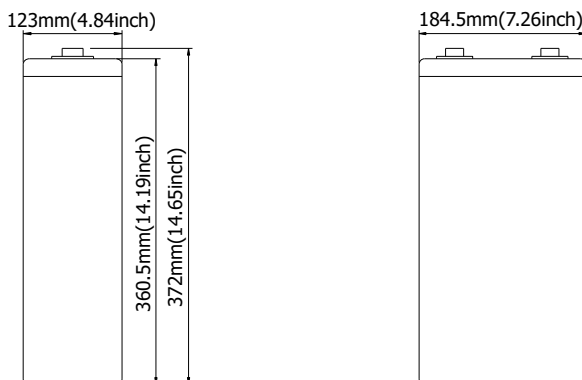
- Extra long life service design.
- Non-Spillable construction design.
- ABS containers and covers(UL94HB, UL94V-0) optional.
- Safety valve installation for explosion proof.
- Higher safety & reliable construction.
- Exceptional deep discharge recovery performance.
- Low self discharge characteristic.
- Flexibility design for multiple install positions.

## Construction

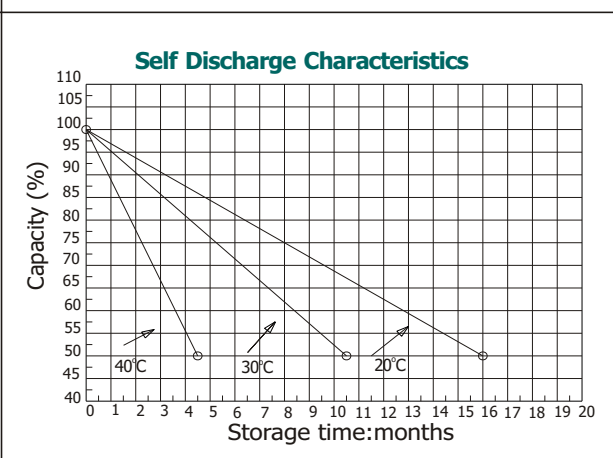
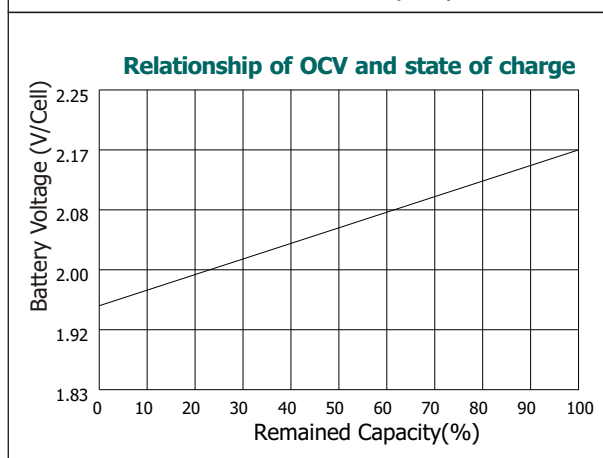
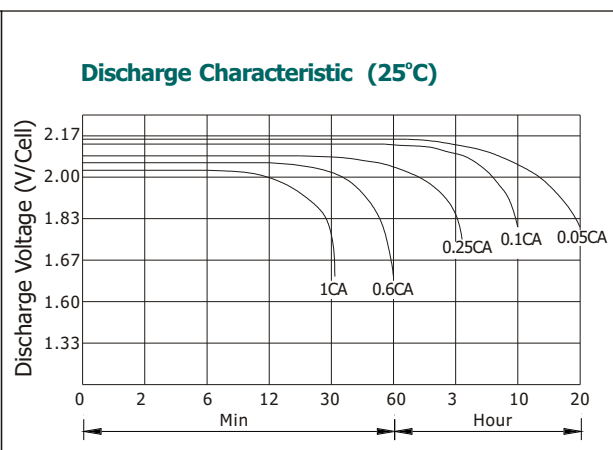
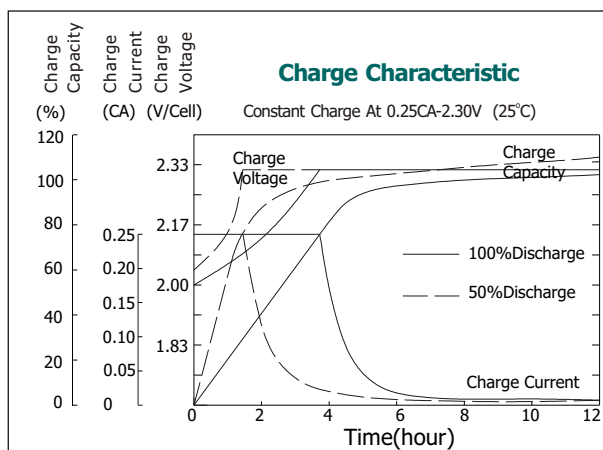
|                 |              |                    |               |
|-----------------|--------------|--------------------|---------------|
| Component ..... | Raw material | Sealant .....      | Epoxy Resin   |
| Positive .....  | Lead dioxide | Safety valve ..... | EPDR          |
| Negative .....  | Lead         | Terminal .....     | Copper        |
| Container ..... | ABS          | Separator .....    | Fiber glass   |
| Cover .....     | ABS          | Electrolyte .....  | Sulfuric acid |



Terminal Dimensions



| Battery Model                    | LSE2-300                                    |                 |                        |                   |
|----------------------------------|---------------------------------------------|-----------------|------------------------|-------------------|
| Designed Floating Life           | 15 Years                                    |                 |                        |                   |
| Capacity(25°C)                   | 20HR(15.5A,1.75V)                           | 10HR(30A,1.75V) | 5HR(54A,1.75V)         | 1HR(194.1A,1.75V) |
|                                  | 309.9AH                                     | 300AH           | 270AH                  | 194.1AH           |
| Dimensions                       | Length                                      | Width           | Height                 | Total Height      |
|                                  | 184.5mm(7.26inch)                           | 123mm(4.84inch) | 360.5mm(14.19inch)     | 372mm(14.65inch)  |
| Approx. Weight                   | 19Kg (41.85 lbs)                            |                 |                        |                   |
| Internal Resistance              | Full charged at 25°C :0.47 mΩ               |                 |                        |                   |
| Self Discharge                   | 3% of capacity declined per month at (25°C) |                 |                        |                   |
| Capacity Affected by Temp.(20HR) | 40°C                                        | 25°C            | 0°C                    | -15°C             |
|                                  | 102%                                        | 100%            | 85%                    | 65%               |
| Charge Voltage(25°C)             | Cycle use                                   |                 | Float use              |                   |
|                                  | 2.3V-2.35V(-5mV/ °C), max. Current: 75A     |                 | 2.25-2.27V(-3.3mV/ °C) |                   |



## Constant current discharge ratings -amperes at 25°C

| Time<br>End Voltage | 5min  | 15min | 30min | 60min | 2hour | 3hour | 5hour | 6hour | 8hour | 10hour | 24hour |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 1.60V               | 500.0 | 418.7 | 310.1 | 196.0 | 115.5 | 84.8  | 57.5  | 49.6  | 39.6  | 32.8   | 14.8   |
| 1.65V               | 461.9 | 390.3 | 297.0 | 185.9 | 112.9 | 82.7  | 56.1  | 48.9  | 39.0  | 32.5   | 14.7   |
| 1.70V               | 431.8 | 366.0 | 273.2 | 177.6 | 108.7 | 80.3  | 55.6  | 48.3  | 38.3  | 32.0   | 14.7   |
| 1.75V               | 411.4 | 346.5 | 253.9 | 169.3 | 104.9 | 77.8  | 54.1  | 47.5  | 37.8  | 31.5   | 14.5   |
| 1.80V               | 395.7 | 326.7 | 237.6 | 158.6 | 100.4 | 75.4  | 52.8  | 46.3  | 37.1  | 30.8   | 14.3   |
| 1.83V               | 368.1 | 306.7 | 226.2 | 148.5 | 95.9  | 73.0  | 51.6  | 45.5  | 36.5  | 30.2   | 14.0   |
| 1.85V               | 350.4 | 289.7 | 211.9 | 143.2 | 90.6  | 71.6  | 51.0  | 44.8  | 36.1  | 30.0   | 13.8   |
| 1.88V               | 325.7 | 264.2 | 199.0 | 137.1 | 88.6  | 70.1  | 50.5  | 44.2  | 35.6  | 29.8   | 13.7   |
| 1.90V               | 301.3 | 245.0 | 181.8 | 127.1 | 84.9  | 67.1  | 49.1  | 43.2  | 34.7  | 29.0   | 13.5   |
| 1.94V               | 271.0 | 218.2 | 160.9 | 112.9 | 76.7  | 61.7  | 45.5  | 40.1  | 32.4  | 27.3   | 13.1   |

## Constant power discharge ratings-watts at 25°C

| Time<br>End Voltage | 5min  | 15min | 30min | 60min | 2hour | 3hour | 5hour | 6hour | 8hour | 10hour | 24hour |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 1.60V               | 849.9 | 711.8 | 566.8 | 403.9 | 260.6 | 193.1 | 127.5 | 108.9 | 85.1  | 69.5   | 31.3   |
| 1.65V               | 808.3 | 683.1 | 536.1 | 373.2 | 239.1 | 181.2 | 123.1 | 105.4 | 82.0  | 67.8   | 30.7   |
| 1.70V               | 777.2 | 658.8 | 522.7 | 355.4 | 232.2 | 174.7 | 120.3 | 103.4 | 80.2  | 65.8   | 30.1   |
| 1.75V               | 752.9 | 634.1 | 504.9 | 341.6 | 223.9 | 168.3 | 117.3 | 101.0 | 77.2  | 64.8   | 29.8   |
| 1.80V               | 732.1 | 604.4 | 487.1 | 333.6 | 219.8 | 162.4 | 114.0 | 98.0  | 75.2  | 63.9   | 29.4   |
| 1.83V               | 692.0 | 576.7 | 459.4 | 321.8 | 210.9 | 158.4 | 111.7 | 95.0  | 73.8  | 62.6   | 29.0   |
| 1.85V               | 665.8 | 550.4 | 433.1 | 303.4 | 202.0 | 153.7 | 108.7 | 92.8  | 72.8  | 61.4   | 28.2   |
| 1.88V               | 628.7 | 509.9 | 402.7 | 285.1 | 187.7 | 148.5 | 105.1 | 89.5  | 70.8  | 59.9   | 27.5   |
| 1.90V               | 587.6 | 477.7 | 365.3 | 261.4 | 175.2 | 142.6 | 101.6 | 86.7  | 68.1  | 56.9   | 26.4   |
| 1.94V               | 531.1 | 427.7 | 327.3 | 231.7 | 161.9 | 132.5 | 96.2  | 83.2  | 65.3  | 54.5   | 26.1   |