S-POWER 2S
BRIEF DATASHEET

VERSION 1.2 / 2023-10-24

LIGNA ENERGY

FEATURES

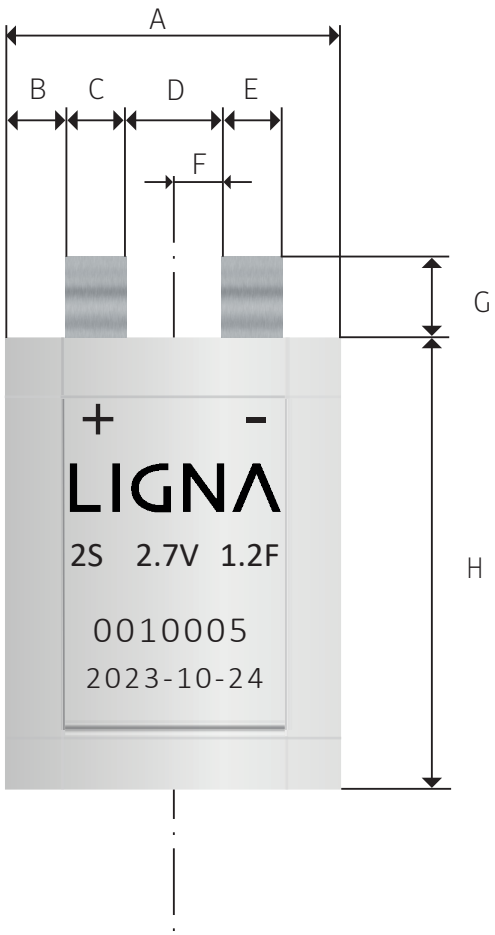
- Non-toxic and environmentally friendly
- Compact & thin
- Low leakage current
- Mountable on curved surfaces

EXAMPLE APPLICATIONS

- Indoor temperature & air quality sensors
- Electronic shelf labels
- IoT applications based on LoRa, BLE and other similar radio technologies

LAYOUT

Parameter	Denotation	Typical value	Unit
Width	A	29	mm
Height	H	39	mm
Thickness		<0.6	mm



RATINGS

Parameter	Typical value
Rated voltage	2.7 V
Rated capacitance	1.2 F
Capacitance tolerance	+/- 20 %
Operating temperature	-20 to 65 °C

A: 29 mm
B: 5 mm
C: 5.3 mm
D: 8.5 mm
E: 5.3 mm
F: 4.2 mm
G: 7 mm
H: 39 mm

Mechanical tolerances
A, C, E, F, H: +/- 0.4 mm
B, D, G: +/- 0.8 mm

Maximum thickness: 0.6 mm
Terminals thickness: 30 µm

S-POWER 2S
BRIEF DATASHEET

VERSION 1.2 / 2023-10-24

LIGNA ENERGY

ELECTRICAL PERFORMANCE

Parameter	Denotation	Typical value	Unit
Rated voltage[1]	V_R	2.7	V (DC)
Rated capacitance[2]	C	1.2	F
Internal resistance[2]	DCESR	3	Ω
Equivalent series resistance[3]	ESR	1	Ω
Leakage current[4]	DCL	5	µA
Leakage current after 5 days @ V_R		<2	µA
Max. non-repetitive peak current[5]	I_{peak}	350	mA
Charge retention[6]		>90	%
Max energy[7]	E_{MAX}	1.2	mWh
Cycle life[8]		>100 000	cycles

NOTES

1. At higher voltages lifetime and cycle life will be reduced while leakage increases.
2. Rated capacitance and internal resistance are all determined based on IEC 62391-1:2022 method A.
3. ESR measured at 1kHz and 5 mV amplitude.
4. Leakage current, DCL, measured after biasing at V_R for 8h. Observe that the initial current may be higher.
5. I_{PEAK} is the current required to discharge the cell from V_R to $V_R/2$ in 1s. Observe that it is not recommended to use this current for continuous operation.
6. Remaining charge measured after 8 hours constant voltage charge followed by 24 h self-discharge.
7. Max energy $E_{max} = \left(\frac{1}{2} * C * V_R^2\right)/3.6$
8. Cycle life can vary significantly for various applications and thus each case should be studied individually. A cycle is defined by current charge to V_R followed by discharge to $V_R/2$.