EV & MOBILITY · EVFJ SERIES

6-EVFJ-40



12V 40 Ah lead crystal battery

Built for electric bikes, scooters, and mobility aids.

- 6,000+ cycles at 20% DoD
- Light 12.5 kg EV design
- High-discharge rate capability
- Operates from -40°C to +65°C
- 99% recyclable, non-hazardous

NOMINAL VOLTAGE	RATED CAPACITY	DIMENSIONS	WEIGHT
12 V	40 Ah	222 × 120 × 175 mm	12.5 kg
6 cells	3 h rate	L × W × total H	approximately

TERMINAL	MAX DISCHARGE	INTERNAL RESISTANCE	CHARGE VOLTAGE
F3	400 A	≤ 9.0 mΩ	13.6 to 13.7 V
standard	for 5 seconds	fully charged, 25 °C	float · cycle 14.6 to 14.7V

01 Specification

Manufacturer's data at 25 °C unless stated

ELECTRICAL

Nominal voltage	**12V** 6 × 2V cells
Rated capacity	**40 Ah** 3 hour rate
Chemistry	**Lead crystal** SiO_2 electrolyte, valve regulated
Internal resistance	**≤ 9.0 mΩ** fully charged, 25 °C
Max discharge current	**400 A (5 s)** 25 °C

CAPACITY AT 25 °C

10 h rate	**45 Ah** at 4.5 A
5 h rate	**42.5 Ah** at 8.5 A
2 h rate	**32 Ah** at 16 A

DIMENSIONS AND WEIGHT

Length	**222 mm** 8.74 in
Width	**120 mm** 4.72 in
Height	**175 mm** 6.89 in
Total height	**175 mm** top of terminal · 6.89 in
Weight	**12.5 kg** approx. 27.6 lb
Terminal	**F3** standard

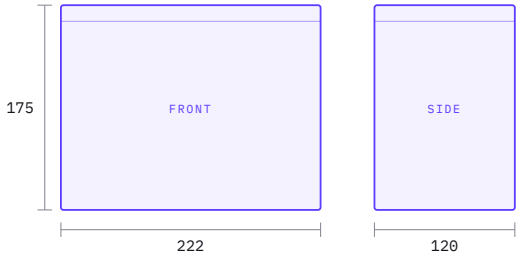
SELF-DISCHARGE AT 25 °C

After 3 months	**95%** capacity remaining
After 6 months	**85%** capacity remaining
After 12 months	**80%** capacity remaining

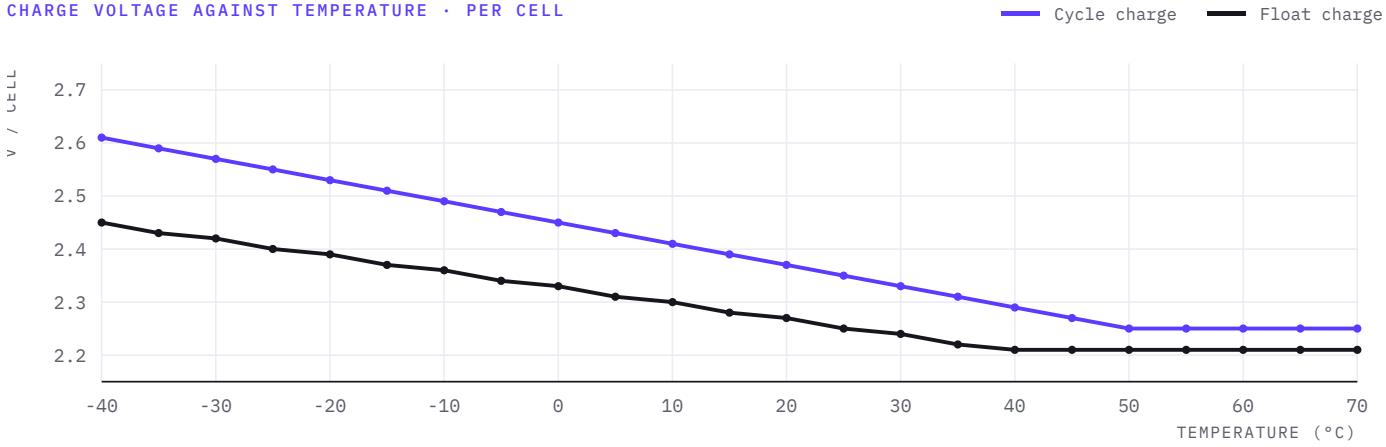
CHARGING · CONSTANT VOLTAGE

Cycle use	**14.6 to 14.7V** at 25 °C, initial current up to 8 A
Float / standby	**13.6 to 13.7V** at 25 °C

CASE, TO SCALE · MM



CHARGE VOLTAGE AGAINST TEMPERATURE · PER CELL



°C	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70
Cycle	2.61	2.59	2.57	2.55	2.53	2.51	2.49	2.47	2.45	2.43	2.41	2.39	2.37	2.35	2.33	2.31	2.29	2.27	2.25	2.25	2.25	2.25	2.25
Float	2.45	2.43	2.42	2.40	2.39	2.37	2.36	2.34	2.33	2.31	2.30	2.28	2.27	2.25	2.24	2.22	2.21	2.21	2.21	2.21	2.21	2.21	2.21

Volts per cell. Multiply by 6 for the 12V battery (at 25 °C: 14.10 V cycle, 13.50 V float).

02 Discharge performance

Manufacturer's data at 25 °C

Constant current discharge

AMPERES · BY END VOLTAGE PER CELL AND DURATION

END V PER CELL	5min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.60V	121	77.6	51.1	38.5	26.6	16.6	13.5	10.7	9.00	8.21	6.19	4.73	3.98	2.49	2.09
1.67V	104	70.3	47.4	36.5	26.2	16.4	13.2	10.5	8.78	7.88	5.96	4.64	3.98	2.49	2.09
1.70V	100	68.2	45.9	36.0	26.0	16.2	13.1	10.2	8.66	7.54	5.79	4.59	3.98	2.48	2.08
1.75V	90.9	63.8	44.1	34.6	25.8	16.0	12.9	10.1	8.48	7.26	5.63	4.55	3.95	2.48	2.07
1.80V	80.4	58.5	42.4	33.3	25.7	15.8	12.6	9.95	8.33	7.20	5.49	4.50	3.86	2.48	2.07
1.83V	70.2	53.4	39.2	31.0	25.0	15.5	12.3	9.54	8.16	6.98	5.31	4.37	3.76	2.47	2.01
1.85V	60.0	48.4	36.0	28.7	24.3	15.3	11.8	9.18	7.99	6.75	5.13	4.24	3.65	2.46	1.95

Constant power discharge

WATTS PER CELL · BY END VOLTAGE PER CELL AND DURATION

END V PER CELL	5min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	12h	20h	24h
1.60V	200	135	92.5	70.6	49.1	33.2	25.1	20.3	17.3	15.2	11.5	9.35	7.83	4.86	4.08
1.67V	179	125	86.3	67.0	49.0	32.2	25.0	20.2	16.7	15.0	11.2	9.13	7.83	4.86	4.08
1.70V	173	122	84.0	66.5	48.8	31.4	24.4	20.1	16.4	14.9	11.2	9.04	7.83	4.86	4.07
1.75V	159	115	81.2	64.4	48.7	30.3	24.0	19.8	16.0	14.7	11.0	8.95	7.83	4.86	4.07
1.80V	145	106	78.5	62.7	48.5	29.3	23.8	19.4	15.6	14.4	10.8	8.87	7.60	4.81	4.06
1.83V	127	98.0	73.4	58.7	48.3	28.3	23.6	18.8	15.1	14.0	10.4	8.64	7.42	4.81	3.96
1.85V	110	90.2	68.2	54.7	48.2	27.1	23.5	18.1	14.5	13.6	10.1	8.42	7.24	4.77	3.86

WHY LEAD CRYSTAL

Performance

Discharges deeper and cycles more often, in extreme heat and cold too, and recovers to full rated capacity again and again for a longer service life.

Technology

Micro-porous absorbent glass mat, high-purity lead calcium selenium plates and an SiO_2 electrolyte that sets into a white crystalline powder.

Cleaner and safer

Less acid, no cadmium and no antimony. Up to 99% recyclable and classed as non-hazardous goods for transport.

Where it works

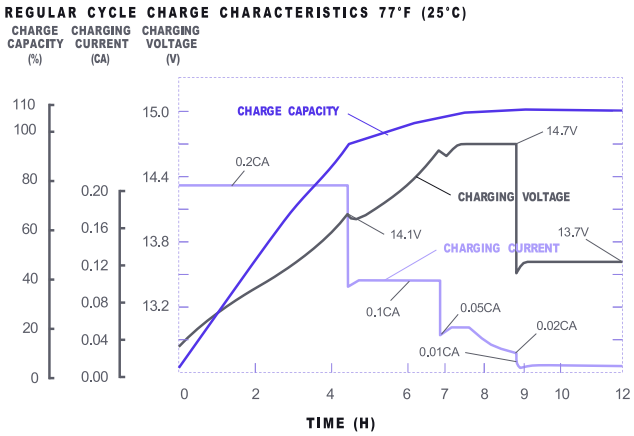
Telecoms, UPS, petrochemical and marine, defence, renewable energy, health care, manufacturing, transport and electric mobility.

ISO 9001 | ISO 14001 | CE | UL | IEC | 99% recyclable

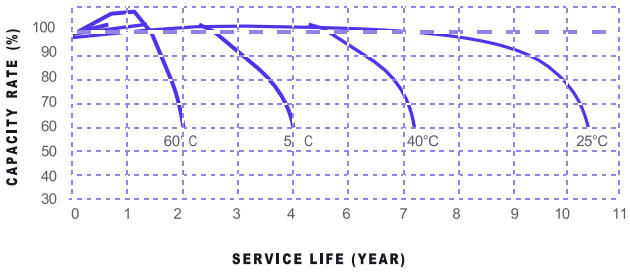
03 Performance curves

Manufacturer's test curves

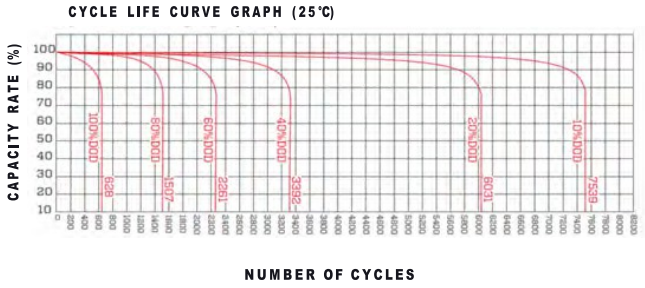
CHARGE CHARACTERISTIC 77°F (25°C)

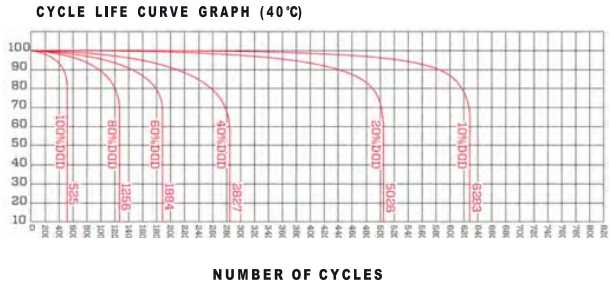


TEMPERATURE AND FLOAT SERVICE LIFE

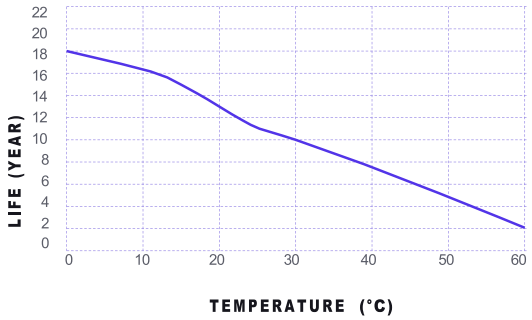


CYCLE LIFE CURVE GRAPH

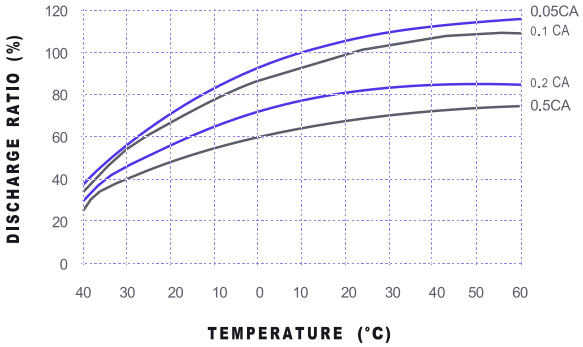




FLOAT SERVICE LIFE CURVE GRAPH



TEMPERATURE & DISCHARGE CAPACITY



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