

# ESH 12 - 70W

## VRLA-AGM BATTERIES

## High Rate Discharge Series

### INTRODUCTION

Rocket ESH Series is designed for the application which requires high power output. ESH series can deliver 50% more power than ESC Series of Rocket Batteries. This is achieved by optimizing the grid plate design and by using advanced plate paste formula.

Through its constant research and development, Global has continued to lead its nation's storage battery industry. From the beginning, Global's motto has been to provide its customers with "more powerful and durable batteries". Therefore, Global has been in the pursuit of quality advanced technology in the battery manufacturing business. In order to stay in competition with the international battery market, Global has established capital and technical ties with the world's most renowned battery manufacturers, such as Yuasa Corporation of Japan, Hagen Batteries AG. of Germany, and SAFT of France.

### TECHNICAL FEATURES

- Non-Spillable Sealed Construction
- Absorptive Glass Mat System (AGM System)
- ABS (Acrylonitrile Butadiene Styrene) container and cover
- Gas Recombination
- Maintenance-Free Operation
- Low Pressure Venting System
- Heavy - Duty Grids
- Low Self-Discharge - Long Shelf Life
- Wide Operating Temperature Range

### APPLICATIONS

- UPS
- Telecom Communication Equipments
- Fire Alarm & Security Systems
- Medical Instruments
- Emergency Lighting
- Computer Backup

### COMPLAINTS STANDARD

- JIS C8702, BS 6290/4 and IEC 896/2
- Eurobat Guide/HF
- ISO9001/ISO14000

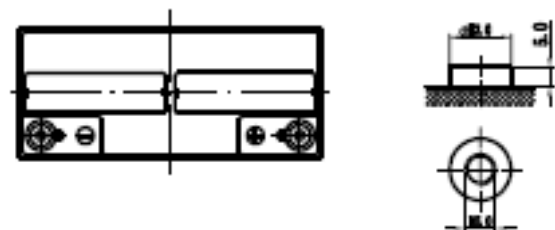
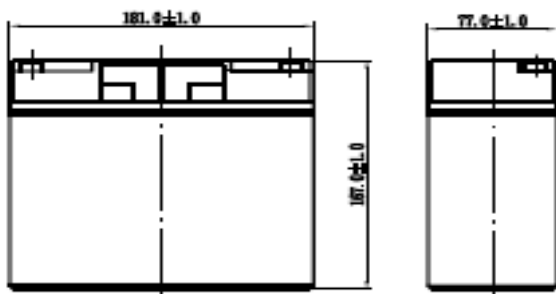
### SPECIFICATION

Nominal Voltage		12V
Capacity (20HR, 25°C)		17 Ah
Dimension	Length	181mm (7.13inch)
	Width	77mm (3.03inch)
	Height	167mm (6.57inch)
	Total Height	167mm (6.57inch)
Approx Weight		5.90kg (13.0lbs)
Design Life		10 Years

### CHARACTERISTICS

Capacity 25°C (77°F)	20 hour rate	17 Ah
Capacity (W) 1.60V, 20°C	10 min	105
Internal resistance (Fully charge, 20°C)		15mOhms
Self-discharge (20°C)	1 month	Remaining Capacity: 97%
Operating temperature range	Discharge	-20°C~60°C
	Charge	-10°C~60°C
	Storage	-20°C~60°C
Maximum discharge current		68°F(20°C) 255A(5 Sec.)
Short circuit current		800A
Charge Methods (Constant Voltage Charge 68°F(20°C)) - Cyclic Use		Cycle Use 14.5 to 14.9V
		Max. charging Current 6.8A
Charge Methods (Constant Voltage Charge 68°F(20°C)) - Standby Use		Temp. compensation - 30mV/°C
		Standby Use 13.6-13.8V
		Temp. compensation - 20mV/°C

**THE BATTERY CONTAINER AND COVER ARE AVAILABLE BOTH IN ABS plastic and Flame Retardant (FR).**



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## High Rate Discharge Series

### CONSTANT CURRENT DISCHARGE (Amperes) at 25°C

End Point Volts/Cell	5min	10min	15min	20min	25min	30min	35min	40min	45min	50min	55min
1.60V	88.9	61.5	48.1	37.7	31.4	27.2	24	21.6	19.7	18	16.7
1.65V	83.6	58.2	45.6	35.7	29.8	25.8	22.8	20.5	18.7	17.2	15.9
1.70V	78.3	54.8	43.1	33.8	28.1	24.4	21.6	19.4	17.8	16.3	15.1
1.75V	73	51.5	40.6	31.8	26.5	23	20.3	18.4	16.8	15.4	14.3
1.80V	69.9	49.6	39.2	30.8	25.8	22.4	19.8	17.9	16.4	15.1	14

End Point Volts/Cell	60min	1.5h	2h	2.5h	3h	4h	5h	6h	7h	8h	9h	10h	12h	24h
1.60V	15.6	10.7	8.25	6.79	5.82	4.47	3.65	3.05	2.62	2.3	2.06	1.86	1.56	0.81
1.65V	14.8	10.2	7.89	6.49	5.57	4.29	3.51	2.93	2.52	2.21	1.98	1.79	1.5	0.79
1.70V	14.1	9.7	7.52	6.2	5.32	4.1	3.37	2.81	2.42	2.12	1.89	1.72	1.44	0.76
1.75V	13.4	9.24	7.15	5.9	5.07	3.91	3.22	2.69	2.31	2.03	1.81	1.63	1.38	0.73
1.80V	13.1	9.04	7	5.78	4.97	3.84	3.16	2.64	2.27	1.99	1.78	1.61	1.36	0.72

### CONSTANT POWER DISCHARGE (Watts per cell) at 25°C

End Point Volts/Cell	5min	10min	15min	20min	25min	30min	35min	40min	45min	50min	55min
1.60V	152	105	81.9	63.9	53.2	46	40.7	36.8	33.7	31.2	29.1
1.65V	146	101	79	61.7	51.4	44.5	39.5	35.7	32.7	30.3	28.3
1.70V	139	97.2	76.1	59.6	49.6	43	38.2	34.5	31.7	29.4	27.5
1.75V	133	93.2	73.3	57.4	47.9	41.5	36.9	33.4	30.7	28.5	26.7
1.80V	126	89.3	70.4	55.2	46.1	40	35.6	32.3	29.7	27.6	25.9

End Point Volts/Cell	60min	1.5h	2h	2.5h	3h	4h	5h	6h	7h	8h	9h	10h	12h	24h
1.60V	27.4	19	14.8	12.3	10.6	8.09	6.58	5.53	4.77	4.21	3.77	3.42	2.93	1.59
1.65V	26.7	18.5	14.4	12	10.3	7.9	6.43	5.41	4.67	4.12	3.7	3.35	2.88	1.57
1.70V	25.9	18	14	11.7	10.1	7.7	6.29	5.29	4.57	4.04	3.62	3.29	2.83	1.54
1.75V	25.2	17.5	13.6	11.3	9.81	7.51	6.14	5.17	4.47	3.95	3.54	3.22	2.77	1.52
1.80V	24.4	17	13.3	11	9.54	7.32	5.99	5.04	4.37	3.86	3.47	3.15	2.72	1.49

