



# ES17-12

## SPECIFICATIONS

**Nominal Voltage (V)** 12V

### Nominal Capacity

20 hour rate ( 0.9A to 10.50V )	18Ah
10 hour rate ( 1.71A to 10.50V )	17.1Ah
5 hour rate ( 3.06A to 10.20V )	15.3Ah
1C ( 18A to 9.60V )	9.6Ah
3C ( 54A to 9.60V )	6.3Ah

**Weight** Approx. 12.89Lbs. (5.86kg)

**Internal Resistance (at 1KHz)** Approx. 12 mΩ

**Maximum Discharge Current for 5 seconds :** 270A

### Operating Temperature Range

Charge	-15°C ( 5°F ) to 40°C (104°F )
Discharge	-15°C ( 5°F ) to 50°C (122°F )
Storage	-15°C ( 5°F ) to 40°C (104°F )

### Charge Retention (shelf life) at 20°C ( 68°F )

1 month	92%
3 months	90%
6 months	80%

### Charging Methods at 25°C ( 77°F )

**Cycle Use :** Charging Voltage 14.4 to 15.0V  
Coefficient -5.0mv / °C / cell  
Maximum Charging Current : 5.4A

**Standby Use :** Float Charging Voltage 13.50 to 13.80V  
Coefficient -3.0mv / °C / cell

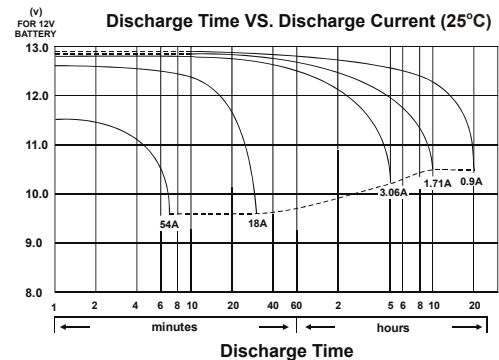
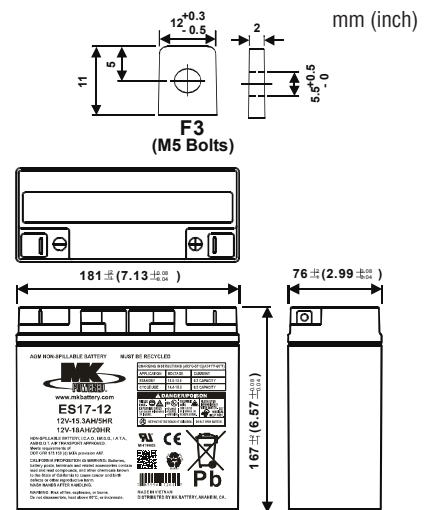
**Case Material :** ABS  
(Option : UL94 HB Flame Retardant Case Material)

**Terminal :** F3

## Maintenance-Free Rechargeable Sealed Lead-Acid Battery



## DIMENSIONS



## MK Battery

1631 South Sinclair Street • Anaheim, California 92806

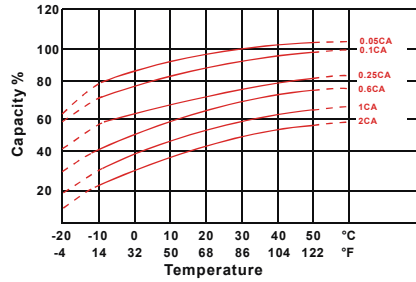
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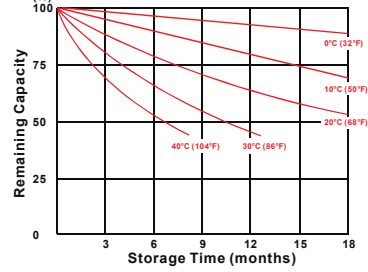


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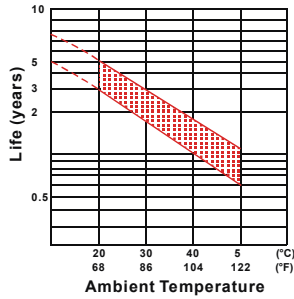
Effect of Temperature on Capacity 25°C (77°F)



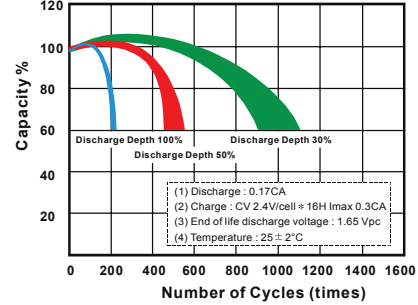
Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life



## - PERFORMANCE DATA

Discharge Rates in Watts to Various End Voltages at 25°C (77°F)

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
5	min	99.8	117	129	136	138	140	142
10	min	69.0	79.1	86.5	91.1	92.2	93.7	94.9
15	min	63.5	70.8	75.8	78.8	79.7	80.6	81.4
30	min	32.8	35.3	37.9	39.5	40.0	40.5	40.9
60	min	19.8	20.8	21.7	22.3	22.5	22.8	23.2
120	min	11.5	12.0	12.3	12.7	12.8	13.0	13.1
180	min	8.60	8.95	9.18	9.38	9.45	9.53	9.63
240	min	6.78	7.08	7.27	7.42	7.47	7.53	7.61
300	min	5.87	6.10	6.22	6.32	6.35	6.40	6.46
600	min	3.47	3.58	3.67	3.73	3.75	3.79	3.82
1200	min	1.82	1.88	1.93	1.97	1.98	2.00	2.01

- Discharge Rates in Amperes to Various End Voltages at 25°C (77°F)

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
5	min	64.9	70.6	74.2	77.4	78.7	80.1	82.5
10	min	39.7	42.9	45.4	47.6	48.5	49.5	51.2
15	min	32.8	35.5	37.2	38.7	39.3	40.0	40.9
30	min	17.4	18.9	20.0	20.9	21.2	21.6	22.1
60	min	9.9	10.5	11.0	11.4	11.5	11.7	11.9
120	min	5.89	6.11	6.25	6.37	6.41	6.46	6.53
180	min	4.28	4.45	4.55	4.63	4.66	4.70	4.76
240	min	3.46	3.55	3.62	3.67	3.69	3.72	3.75
300	min	2.98	3.05	3.10	3.14	3.15	3.17	3.19
600	min	1.72	1.77	1.81	1.84	1.85	1.86	1.87
1200	min	0.930	0.949	0.964	0.975	0.978	0.982	0.986

All data on the spec. sheet is an average value:

The tolerance range :  $X < 6\text{min}$  (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$  (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$  (+8%~-8%),  $X \geq 60\text{min}$  (+5%~-5%)

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